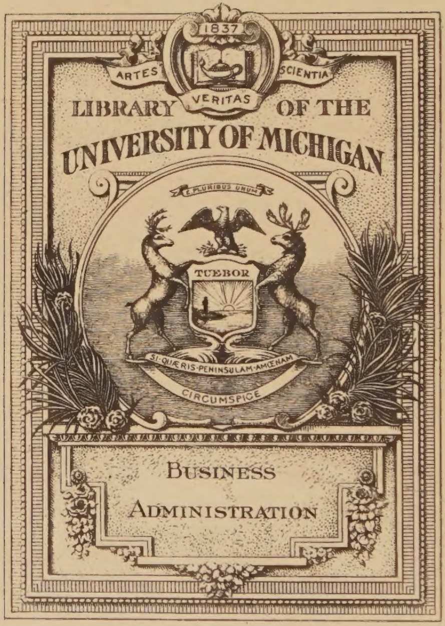
BANKING RATIOS

HORACE SECRIST



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BANKING RATIOS

"I do not endeavor either by triumphs of confutation, or pleadings of antiquity, or assumption of authority, or even by the veil of obscurity, to invest these inventions of mine with any majesty. . . . . I have not sought nor do I seek either to force or ensnare men's judgments, but I lead them to things themselves and the concordances of things, that they may see for themselves what they have, what they can dispute, what they can add and contribute to the common stock."—FRANCIS BACON

"Nearly all the grandest discoveries of science have been but the rewards of accurate measurement and patient, long-continued labor in the minute shifting of numerical results."—LORD KELVIN

BANKING RATIOS

A Study of the Operating Results of Member Banks with Special Reference to the Twelfth Federal Reserve District, and to California

BY

HORACE SECRIST, Ph. D.

Assisted by

KEITH POWLISON, Ph. D.

CLAREMONT COLLEGES
RESEARCH STUDIES

STANFORD UNIVERSITY PRESS
STANFORD UNIVERSITY, CALIFORNIA
1930

STANFORD UNIVERSITY PRESS
STANFORD UNIVERSITY, CALIFORNIA

LONDON: HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS

THE MARUZEN COMPANY
TOKYO, OSAKA, KYOTO, SENDAI

THE BAKER & TAYLOR COMPANY
55 FIFTH AVENUE, NEW YORK

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OF THE LELAND STANFORD JUNIOR UNIVERSITY

PRINTED AND BOUND IN THE UNITED STATES
OF AMERICA BY STANFORD UNIVERSITY PRESS

FOREWORD

Banking in the United States constitutes a fruitful topic for study. From time to time, studies appear which relate to the processes and results of bank operation, and these are welcome, inasmuch as, in the long run, their findings are certain to assist those who are responsible for bank management in conducting their operations with profit to themselves and safety to their depositors.

The study to which this brief note constitutes the Foreword is one of the latest to be made in the bank field. It is a careful and searching analysis of the results of the operations of national banks, by cities, for the country as a whole, and of the individual member banks in the Twelfth Federal Reserve District and in California. Banking officials need to have knowledge of the collective experience of banks, such as that presented in this volume. It supplies them with a fund of information, supplementing that which they have of the operations of their individual institutions, in this way giving them a broader perspective for evaluating and appraising the results of their own activities.

Detailed and exhaustive studies of the kind here presented are necessary to a full understanding of the positions which banks occupy in our banking system. The day-to-day decisions incident to management and control can be made with a better understanding of their final effects if a knowledge of standards of operation, of tendencies of change, and of the interrelation of bank processes, taken from a study of the cumulative experience of banks, is available. It is knowledge of this type which this volume presents.

This study is the result of painstaking and disinterested research, its purpose being primarily to determine and to measure the outcome of bank operations. Its findings are stated in the form of generalizations—supported by detailed analyses—which summarize the collective, normal or "going" experiences of banks. They supply standards by which bankers are able to appraise past policies and thoughtfully to determine those of the future. At this time, when the traditional form of banking—its organization, processes, and functions—is being seriously considered, and its fundamental character modified, the appearance of this study is at once timely and significant. It is favorably recommended to the attention of bankers, directors of banks, bank examiners, and to all thoughtful students of banking procedure and policy.

Vice-President
Security–First National Bank of Los Angeles

PREFACE

The origin, nature, and purpose of this study and the hypotheses upon which it is based are described in the Introduction. What are recorded here, for the most part, are acknowledgments of assistance and encouragement received. First of all should be mentioned the Board of Fellows of Claremont Colleges, and in particular the chairman of the Board, William L. Honnold, LL.D., and the president of Claremont Colleges, Dr. James A. Blaisdell, to whom the writer is indebted for the invitation to undertake the study and for the financial aid upon which its prosecution and completion depended. In supporting this project, the authorities of Claremont Colleges have taken a kindly interest in and a generous attitude toward research as an essential part of graduate education in the social sciences. Then, there are the president and deans of Northwestern University, who granted and extended to the writer a leave of absence of sufficient length in which to complete the task undertaken. Dependent as this study was upon the attitude of those just mentioned, it could not have taken the form which it did had it not been for the co-operation of the Federal Reserve Bank of San Francisco in making available for study the records of individual member banks in the Twelfth District.

Freedom to proceed as one wishes is indispensable to effective research. So, too, for studies which are statistical, are adequate data. But these alone do not guarantee a product, nor do they supply the motive or the attitude of mind upon which it depends. More is necessary. There is, first, the disposition to know, and second, the intention to find out. Problems must be resolved, hypotheses relating to them must be formulated, techniques of study must be developed, and rigorous and time-consuming methods must be carried to their logical fulfilment. Moreover, all this must be done in the spirit of science—the search for truth.

Research in the social sciences, if statistical in character, requires organized effort. Moreover, its success depends upon the co-operation of a loyal and capable personnel. The writer gladly acknowledges his indebtedness for the assistance rendered by those who have shared in the day-to-day tasks in the preparation of the material herewith presented. Especially is he indebted to Dr. Keith Powlison. From the inception of the study to the preparation of the finished product, Dr. Powlison has shown a scientific spirit, a creative imagination, and a sense of helpful co-operation. He has been a friendly critic, and a wise counselor.

This study was not casually undertaken. It represents a sincere effort to contribute to the fund of knowledge concerning the operation of our economic system. It is an additional, though integral, part of the studies which the writer has been making during recent years in an endeavor to determine, to measure, and to state quantitatively the standards, tendencies, and interrelations characterizing economic processes. It is designed, in keeping with the objective of all science, to separate "what is common and general from what is accidental and different."

In pure science, the search is for universals—for "laws," "invariant relations between successive events." In the social field, it is for evidences of standards, trends, and tendencies amid diversity. Absolutes have no place in the consideration of social phenomena—human relations cannot be expressed in terms of constants nor generalizations concerning them take the form of immutable "laws." They are, rather, relevant to time, place, and condition. Moreover, "laws" do not govern or determine events. In the social field, they serve only to summarize prevailing behavior patterns, the characteristics of which can be known provided data concerning them are available. It is the measurement of the results of certain types of social behavior, as they are revealed in the financial records of banks, members of the Federal Reserve System, with which this study has to do. It is believed that it is scientific in the sense that it "sorts phenomena in order to identify processes." Moreover, it is thought to be practical in that it makes known to those who are scientifically minded the bases upon which, with advantage, their parts in social behavior may be played.

Suggestions of value in the preparation of this study have been made by many. The names of individuals and of groups which it is a pleasure to mention are the following: Professor Frank A. Fetter, who during the academic year 1928–1929 was associated with the writer on the Special Commission on Economics of Claremont Colleges; Arch W. Anderson, Edward Elliott, J. R. Douglas, J. B. Ruth, and Herbert H. Smock of the Security–First National Bank of Los Angeles; W. L. Vincent, Assistant to the Cashier and Chief Accountant, Bank of Italy; the members of the faculty of the Economics Department, and of the Graduate School of Business, together with the staff of the Food Research Institute of Stanford University, before whom as a body the writer was privileged to report upon the methods and results of his study; and the members of the faculty of the Economics Department of the University of California, the members of the Los Angeles Chapter of the American Statistical Association, and of the Pacific Coast Economic Conference, who accorded him a like privilege.

Helpful as have been the suggestions and valuable as have been the contributions of certain of those named, the writer takes full responsibility for the accuracy of the processes of analysis, for the conclusions, and for the interpretation of them.

Horace Secrist

Claremont, California
May 15, 1930

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CHAPTER I

INTRODUCTION

Research in the social sciences is difficult. The results often lack certitude because, among other things, the phenomena dealt with are complex, they are only measurably repeatable, they frequently cannot be directly observed, and they are diverse and lack objectivity. Notwithstanding these facts, research in the social field has come to be the vogue, and universities and colleges make their contributions under conditions which are becoming increasingly fortunate. It was at the request of Claremont Colleges that the present study was undertaken. A word of explanation is necessary respecting the subject selected, the manner in which the problems concerning it are resolved, and the method of treatment.

It was the wish of those sponsoring this research project that subject-matter relating to the Pacific Coast and to California should be selected, and that in the approach to its study problems of interest to this portion of the country should be kept in mind. It was, of course, recognized that economic principles and their applications are not confined to particular areas. Moreover, it was not assumed that problems peculiar to this part of the country have strictly a local situs. There was not the slightest suggestion that those sponsoring the study wished in any way to influence the methods to be used or to suggest the nature of the conclusions to be reached. On the contrary, freedom in its pursuit was especially urged, the writer being assured that in every respect the obligations which he assumed in making the study were accompanied by freedom to proceed as he wished. More could not be desired by one as he asked himself the questions: "What phases of economic life on the Pacific Coast are worthy of systematic study? How can problems concerning them be resolved, and results be secured within a restricted time, with a limited budget, and with a given research organization and personnel?"

Research is time-consuming and exacting, if more than casually undertaken. This the writer well knows. Moreover, it requires a peculiar training, and, if it is to be of a quantitative nature, data with which to work. "Bricks cannot be made without straw." Moreover, it is most successful if it is cumulative in character: that is, if it proceeds along lines previously studied, utilizes information and a technique already secured, profits by successes and failures previously met, and resolves its problems in keeping with well-tested hypotheses.

The writer, for years previous to undertaking the present study, has been interested in determining for industry, trade, and banking, quantitative standards of operation and measurements of the degrees to which economic processes, as they are worked out, are interrelated. He has not been nor is he now satisfied with the mold in which traditional economics is cast, nor with the assumptions upon which its "principles" are founded. The injunction to "look and see," so poignantly suggested by Richard Jones, appears to have been disregarded by many of those who speak and write about economic "laws" and their operation. Moreover, he was and is convinced that those responsible for the conduct of business and economic processes are largely ignorant of the results of their own activities as they are interrelated with those of others, the composite of which results in a state of trade and industry held by many to be planless, wasteful, and grossly inefficient. This regrettable condition appears to be not so much the result of the workings of private initiative under freedom of contract and of competition as it is of the fact that knowledge of standards and norms is lacking—benchmarks according to which activities can be measured, gauged, and judged. Such standards are latent in the workings of economic processes. What are needed are their determination and dissemination. Business men and bankers need to be made conscious of such standards, and economics, if it is to be made a science, must incorporate them into its assumptions and take account of them in the formulation of its "laws."

Shortly before receiving the invitation to make a systematic study of some phase of industry on the Pacific Coast, the writer had just published his *Banking Standards under the Federal Reserve System—a Study of Norms, Trends, and Correlations of the Assets, Deposits, Expenses, and Earnings of Member Banks.*[1] Economic facts, as has been observed, are only measurably repeatable. This is true so far as time is concerned, but it is less true geographically under a given condition of trade, industry, finance, and banking. Experiments, in the sense in which they are conducted in the so-called scientific field, while they cannot be applied to human affairs, find their equivalents in comparative studies of given phenomena at different places or arising from the activities of different groups at the same place.

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[1] Northwestern University Business Studies, Chicago and New York, A. W. Shaw Company, 1928.

The study mentioned above unmistakably revealed banking standards and interrelations of banking processes for member banks for a given period for the country as a whole and, for part of this period and for certain processes, for member banks in the Boston and in the New York Federal Reserve districts. In the absence of information to the contrary, these facts hold only for time and place. An "experiment" was now possible, the purpose of which was to determine whether the same standards and interrelations hold for other places and for different groups at the same place. It is the results secured from carrying out this "experiment," and the methods used in conducting it which are reported in this volume.

The study summarizes the standards and interrelations of bank operation for national banks, by cities, for the country generally, for member banks in the Twelfth Federal Reserve District, and in particular for those in California. Limited as are the data and as is the period of time to which they relate, confidence is placed in the significance of the results secured. The bases for this confidence lie (1) in the fact that the standards and interrelations are repeated from year to year, from group to group, and from place to place; (2) in the measures of the precision of the standards and relationships; and (3) in the manner in which they accord with common sense.

Fundamental interrelations in banking are persistent—they are the outcome in part of custom, legal restrictions and impositions, competition, and economic and trade demands. Banking, year after year, is conducted in much the same way, carrying over from time to time a substantial residue of practices and policies incident to a slowly changing business world. Adjustments in keeping with economic conditions and with particular needs are constantly being made, but these for the most part are met in a common way. No bank is wholly unaffected by nor is it able fundamentally to alter its position with respect to conditions as they are, conditions for which it with others of its class is responsible.

Problems of bank operation are obviously met in a variety of ways. Some bankers under competition are alert; others are equally dull. Some are handicapped by poor locations, by slow industrial and trade growth, and by a relatively inefficient management; others are advantageously placed in thriving communities, are progressive and skilful in securing and holding deposits, and in investing and loaning their funds. Different as are the ways making for relative success or failure, bankers, while primarily interested in protecting the funds of their depositors, conduct their businesses with a profit motive and readily or reluctantly make those decisions which knowledge or its absence suggests as most conducive to this end.

By and large, at a given time or at different times, at a given place or at different places, a study of a cross section, such as the one herewith reported, of the banks under the Federal Reserve System, will reveal a general pattern: the weak and the strong, the competent and the incompetent, those securing large and those obtaining small ratios of earnings, loans, and deposits. There are leaders and followers, those with and those without banking acumen. Of such is the banking membership composed.

Banks operate with varying results. Their ratios of loans, deposits, expenses, and earnings vary. Whatever they may be, however, there is no reason for believing that the differences for banks as a whole will markedly vary at one time from those at another. As classes and as individuals they share differently in success or failure to the degree to which they are willing or able to make adjustments to changing economic conditions. Competitive pressure makes this certain. Whatever the levels of comparative success or failure may be, however, adjustments are always in process, competition and personal effort tending on the average to equalize conditions. It is the results of this equalizing process which are observed and measured in the regressive tendencies described — tendencies not restricted to one locality or to one class of banks, but universally, though differently, experienced by all.

Banks in their operations constitute a system, the parts of which are interrelated. The action of one bank is a direct concern of another. This is patently the case in the matter of making loans, of attracting deposits, and of determining interest rates paid or charged. While in a given community or trading center this fact is self-evident, it is no less certain even in non-contiguous areas, the fortunes of banks so situated being linked together by competition transmitted from place to place. How this system operates in so far as member banks are concerned the following pages make clear.

Even more closely interwoven than the fortunes of separate banking institutions are the economic processes carried on within the same institution. This fact is made certain in that part of the discussion devoted to measurements of the degree to which, among other things, earnings and expenses are dependent upon the composition of the earning assets, and the proportion of total deposits comprehended by demand and by time items. In securing these measurements the collective experience of banks is recorded, distinction being made according to type of institution, to location, size, different portions of the country, and different years. Here, then, is a record of pooled experience, a record in which normal or "going" relationships are recapitulated.

This study, like its predecessor and companion, is based upon the following hypotheses: (1) that banking operations and processes constitute a system; (2) that a dispassionate and careful study of their results will reveal its essential nature; and (3) that the norms, trends, and interrelations of banking processes are essentially independent of time, thus constituting a fund of knowledge against which peculiar experiences and problems can be measured, judged, and appraised. It was, moreover, assumed that such knowledge would be valuable to those in positions of responsibility in the field to which the data relate, and to those who are attempting to formulate "principles" descriptive of our economic order.

The truth of these hypotheses, it is believed, is established in the pages which follow, the methods of study and the basic data used being described in detail in chapter x. Moreover, it is maintained that the foregoing assumptions concerning the value of the facts determined are of significance to those upon whom rests the responsibility of making the day-to-day decisions incident to the operation of individual banks. The grounds for this belief are briefly set forth in the following chapter.

CHAPTER II

THE CONCLUSIONS—THEIR MEANING AND SIGNIFICANCE

The conclusions from this study are not a "nostrum." They do not prescribe remedies, nor do they constitute a "sure cure" for banking ills. They are, rather, intended to be contributions to the "physiology" of banking, akin to those which for human beings establish the normal characteristics of metabolism, growth, and decay, upon which the art of medicine has been reared. This study establishes normals, tendencies, trends, and interrelations of the operations of banks. It in part supplies the bases upon which the art of banking may with advantage be conducted.

Banking is an art. But art is founded on science, and banking science is only in its infancy. However else a science may be defined, there can be no doubt that it is a systematized body of knowledge. What contributions does this volume attempt to make to a fund of such information for banking? Without repeating the various conclusions which are derived from a study of the particular aspects of banking hereinafter treated, and considering them as an integral part of what is here summarized, the following basic facts seem to be worth mention:

1. Bank ratios for given series of data are diverse. Out of this diversity, however, levels emerge which are peculiar to types of banks, sizes of institutions, parts of the country, and the sizes of cities in which banks are located. These levels are essentially independent of time, although oscillations about them are constantly taking place, the average amounts remaining approximately the same from period to period. That is, so far as ratios for individual series are concerned, there tend to be customary or normal levels.

2. Whatever the levels of bank ratios by classes of institutions and by their location and size may be, changes are constantly in process, patterns of which, for those at different levels, are discernible. There is commonly and generally a tendency for ratios to approach their own levels, different as they are, in a period of change those which are high relative to time and place decreasing and those which are low relative to time and place increasing. Moreover, the greater the degree to which abnormal conditions obtain, the greater is the tendency for normality to assert itself. Exceptional conditions are transient; normal conditions tend to endure.

This fact is significant in the conduct of bank operations. To be specific: one objective of bank management is to keep operating expenses as low as is consistent with effective operation. For California member banks, these ratios to earning assets range from "Less than 4.25" per cent to "6.75 per cent and over." For the entire membership, the increases and decreases between 1925 and 1926, and 1926 and 1927 are equal. That is, they stand in the ratio of 1.00 to 1.00. For banks having the highest ratios —"6.75 and over"—the decreases relative to the increases stand as 3.75 to 1.00; and for banks having the lowest ratios—"Less than 4.25"—the increases relative to the decreases stand as 3.37 to 1.00.

Ratios at these respective levels are abnormal for banks in the state, and changes occur. Despite the desire of management to retain low levels of expense, increases under these conditions generally result. On the other hand, decreases predominate for the ratios which are abnormally high. Positions of advantage as of disadvantage are insecure — competitive pressure from bank to bank tending to equalize conditions in these respects, leaving the entire banking membership in the same relative positions from year to year.

This phenomenon is general. When bank ratios are relatively low, the likelihood of their being further reduced is small and the chance of their being increased is large. Similarly, when they are high, the chance of their being increased is slight and of their being reduced, large. If one were to select ratios which are relatively high in a given year, the normal expectation is for them in the subsequent year to decrease. Contrariwise, if those which are relatively low are selected, most of them will increase. Yet the degree of expectation depends upon the level which is contemplated. Both increases and decreases occur—this is a certain fact. The point of interest is that neither is haphazard. They occur characteristically in ratios at different levels, the patterns of change of which are essentially duplicated from time to time and from place to place. But, for a given time and place, what are relatively high or low ratios? This can be known only from an examination of the collective experience of banks, and such knowledge, valuable as it is for the determination of bank policy, has not in the past been available. Such experience, properly determined and rightly interpreted, constitutes standards, which, if essentially constant, are serviceable in determining the relative condition, for a given time and place, according to which banks actually operate. Moreover, the regressive tendencies of ratios relative to such standards indicate the normal or characteristic types of change which occurred in the past and which, in the absence of fundamental modifications in banking methods, may be expected to occur in the future.

More important probably than standard ratio levels and patterns of change, as a part of a fund of knowledge according to which banking policies may be formulated, are the unmistakable relationships between series of data representing different phases of bank operation. The determination of such interrelations is the third contribution which this study aims to make to a fund of knowledge for the science of banking. To be specific, the following conditions tend to be normal for banks viewed collectively: positive correlation or direct association of ratios of (1) gross earnings, total expense, and net earnings to earning assets with loans and discounts to earning assets; (2) gross earnings, total expense, and net earnings with demand deposits either to earning assets or total deposits; (3) total expense with gross earnings; and (4) net earnings with gross earnings. On the other hand, for banks similarly viewed, negative correlation or inverse association obtains for ratios of (1) gross earnings, total expense, and net earnings with ratios of time deposits either to earning assets or to total deposits; and (2) net earnings ratios with ratios of total deposits to earning assets.

These are a few of the interrelations found characteristically to hold in the bank data examined. If these types of association are translated into rules for effective management, banks should strive to secure (1) relatively high ratios of loans and discounts to earning assets; (2) relatively high ratios of demand deposits to total deposits or to earning assets; and (3) relatively high ratios of gross earnings to earning assets. On the contrary, they should avoid, in so far as is possible, having (1) relatively high ratios of total deposits to earning assets; and (2) relatively high ratios of time deposits to earning assets or to total deposits.

Moreover, they may be assured that it is the normal tendency for ratios of gross earnings, of total expense, and of net earnings to increase when ratios of loans and discounts and of demand deposits increase. Contrariwise, they may assume that it is generally characteristic—the rule—for ratios of gross earnings, of total expense, and of net earnings to decrease as ratios of loans and discounts and of demand deposits decrease. Then, too, net earnings ratios, in terms of earning assets, are more commonly high when ratios of gross earnings are high than when ratios of total expense are low. Similarly, and in terms of the same unit, increases in net earnings ratios more generally accompany increases in ratios of gross earnings than reductions in ratios of total expense. These and other basic interrelationships are not peculiar to banks operating in a given section of the country. They tend rather to be universal, applying to banks of different sizes, of different types, and with different locations.

This study is a report; it is not a prophecy. It is a record of what has happened in the past. It should not be interpreted as conclusive evidence that conditions in the future will remain the same. If, however, the future may be judged by the past, then it is safe to conclude that, on the basis of past experience, bank ratios which are high relative to time and place may normally be expected to decrease; and bank ratios which are low relative to time and place may be expected to increase. Moreover, and in a similar vein, relationships between series such as those of earnings and expenses with loans and discounts may be expected to repeat themselves. They are encountered for banks of different types, of different size, and with different locations, and until fundamental changes in the banking process take place, relationships found unmistakably to obtain in the past may be judged as safe criteria of those which will obtain in the future.

The conclusions of this volume do not constitute formulas for the operation of an individual banking institution. They rather summarize standards for individual series and interrelations between series recording the results of bank operation found characteristically to hold. They supply in part a fund of knowledge which banks may and probably with advantage can use as guides as the day-to-day problems calling for administrative discretion and judgment are approached.

The results of an analysis of any problem depend upon the way or ways in which it is viewed and upon the methods which are used in its study. There is no desire on the part of the writer to overstate the significance of the results of this study or to attach to them a meaning which they do not contain. Confidence, however, is felt in the conclusions embodied in this volume. This arises primarily out of the fact that they are secured largely independently of the methods of analysis which are used, of the samples to which they apply, and of the times to which they relate. Results are obviously relevant to time, place, and condition, and this fact should be and is kept in mind in assigning to them permanent significance.

It has been made plain in the Preface that this piece of research was not casually undertaken. Moreover, the methods required thoroughly to analyze the data and to develop the conclusions prescribed a form of presentation and a type of discussion which cannot be understood by a hasty perusal of what is written. Rather, it is a work to be studied and consulted, constituting, as it appears to do, a fund of information the significance and meaning of which can be properly appraised and assimilated only by an attitude of mind and a type of study similar to those which its preparation occasioned.

No attempt is here made to state in detail the conclusions arrived at in the several chapters which follow. These, for the most part, are set out by the use of a distinctive type, and take the form of brief generalizations, modifications of which, if any, the text discussion and the statistical details clearly establish. The present chapter is rather designed to summarize the nature of the conclusions and briefly to suggest their significance and meaning.

CHAPTER III

RATIOS OF LOANS AND DISCOUNTS TO EARNING ASSETS

The earning assets of a bank, as the term is used in this study, comprise (1) the loans and discounts, and (2) the investments. The data utilized relate to national banks in sixty-four Central Reserve, Reserve, and Other Reserve cities for each of the years 1922 to 1927, and to individual member banks of the Federal Reserve System in California for each of the years 1925 to 1927. When the amounts of loans and discounts for the two bodies of data are expressed as percentages of earning assets, it is found that the average ratios are as follows:

Classes of Banks	Ratios: Loans and Discounts to Earning Assets	
	1922–1927	1925–1927
National Banks: 64 Cities	73.37	71.92
National Banks: 8 Cities, Twelfth District	73.00	71.38
National Banks: San Francisco, Los Angeles, and Oakland	75.95	75.35
All Member Banks: California	.....	66.27

For the sixty-four cities, for the six years in question, 76 per cent of the ratios range from 65 to 85 per cent; for the eight cities in the Twelfth District for the same period, 79 per cent fall within these limits; and for the member banks in California, for the years 1925 to 1927, 48 per cent occur within this range. While the typical percentage group for each class of banks is 75 to 85 per cent, the ratios are generally lower for the member banks in California than for the national banks in the two city-groups.

The range of the ratios for the member banks in California makes it desirable to classify the banks by type. When this is done it is found that the amounts are lowest for the three years combined and for each of the years 1925 to 1927 for national unit banks;[1] and highest for state banks with branches. The average ratios for the three years combined, for the different types of banks, are as follows:

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[1] A "unit bank" is one operating as an independent institution. It neither is a branch of any other bank, nor does it have branches of its own. Its stockholders may, as a body, however, be the stockholders of other affiliated banks.

TYPES OF BANKS	RATIOS: LOANS AND DISCOUNTS TO EARNING ASSETS
Average	66.27
National Unit	64.84
State Unit	74.50
National Banks with Branches	70.60
State Banks with Branches	76.70

If the respective member banks in California are classified by the average amounts of their earning assets, it tends to be true that the larger the institution the larger the proportion which loans and discounts constitute of the earning assets. This condition obtains for each of the years and for the total period for which data relating to these banks are available. Moreover, it holds for the combined years for each type of bank, the difference between the percentage for the smallest and for the largest institutions, classified according to average amounts of earning assets—"Under $1,000,000" and "$3,000,000 and Over" —being 10 points: i.e., ranging from 64 to 74 per cent. The actual amounts for the banks classified by size, but without respect to type, are as follows:

AMOUNT OF EARNING ASSETS (AVERAGE 1925–1927)	RATIOS: LOANS AND DISCOUNTS TO EARNING ASSETS			
	All Years	1925	1926	1927
Average	66.27	67.72	66.32	64.46
Under $1,000,000	63.82	65.38	63.85	61.98
$1,000,000 to $3,000,000	67.00	68.68	67.22	64.71
$3,000,000 and Over	73.58	74.10	73.80	72.38

The ratios are different for member banks in California not only when classified by size but also by location. This fact is apparent from two types of analyses. If the banks are classified by size of city (1920) in which located, it is found that, over the range of city sizes, the larger the city, not only for all banks but also for each type of bank, the larger the percentage which loans and discounts constitute of earning assets. This relation is evident from the following summary:

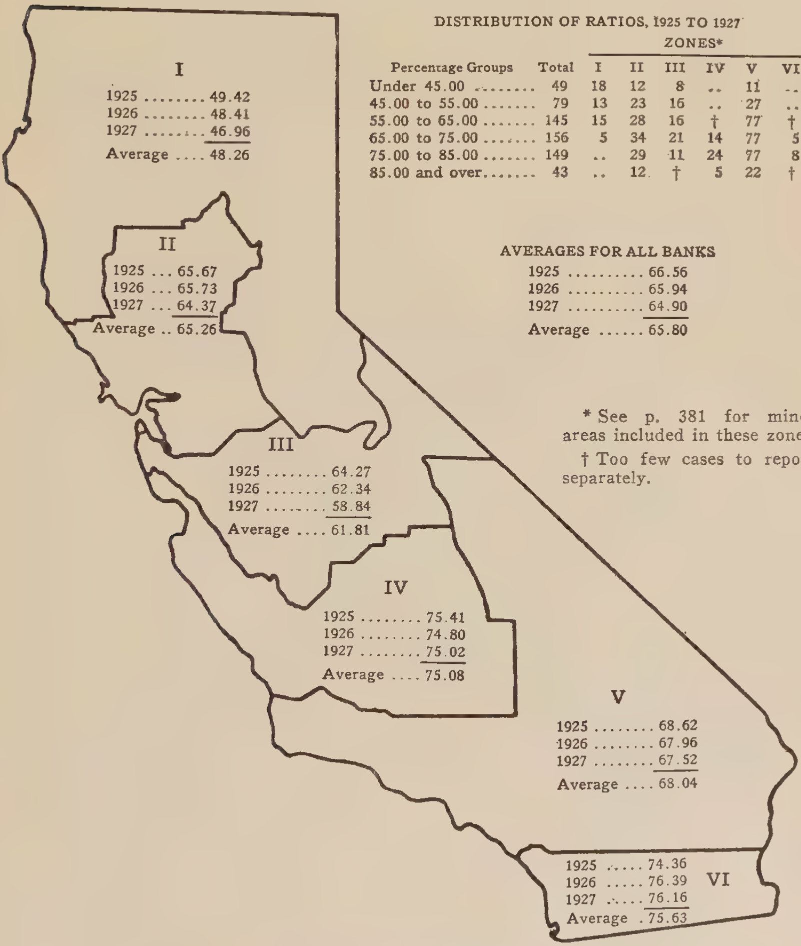
SIZE OF CITY (1920) IN WHICH LOCATED	RATIOS: LOANS AND DISCOUNTS TO EARNING ASSETS			
	All Years	1925	1926	1927
Average	66.27	67.72	66.32	64.46
Under 2,500	65.40	67.04	65.78	63.26
2,500 to 15,000	63.69	65.57	63.18	61.79
15,000 and Over	70.44	71.24	70.78	69.11

This basis of classification, however, only indirectly takes account of the geographical location of the institutions—a fact of significance in determining the size of the ratios.

CHART 1

Average Ratios of Loans and Discounts to Earning Assets, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES*					
		I	II	III	IV	V	VI
Under 45.00	49	18	12	8	..	11	..
45.00 to 55.00	79	13	23	16	..	27	..
55.00 to 65.00	145	15	28	16	†	77	†
65.00 to 75.00	156	5	34	21	14	77	5
75.00 to 85.00	149	..	29	11	24	77	8
85.00 and over.......	43	..	12	†	5	22	†

AVERAGES FOR ALL BANKS

1925	66.56
1926	65.94
1927	64.90
Average	65.80

* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

The amounts by regions of the state, as shown in Chart 1, generally, although not consistently, become larger from Zone I to Zone VI.[1] If banks which reported for the three years are considered, and the zones are consolidated, the following averages are secured for the three years 1925 to 1927:

Zones	Ratios: Loans and Discounts to Earning Assets
I and II	60.58
III and IV	67.20
V and VI	68.41

If the zones are further merged to give pictures for Northern and for Southern California, the average ratios for the years 1925 to 1927 are as follows:

Zones	Ratios: Loans and Discounts to Earning Assets
I to IV	63.24
V and VI	68.41

In Chart 1, average ratios are secured for different zones of the state, but as shown by the tabular material on the same chart, the amounts in these zones differ. Recognition of this fact is taken in Chart 2, in which different portions[2] of the state having unit banks with the same class ratio—averages for the three years 1925 to 1927—are marked by a system of shading and cross-hatching. Moreover, this chart shows in tabular form the number of unit banks, in each of 22 areas, having different class ratios.

It will be seen that the zones shown in Chart 1 are in Chart 2 broken up, the separate parts being characterized by one or more class ratios. Such a scheme of representation, while only in a general way taking into account the diversity of conditions which obtains, serves to supplement the more general figures in Chart 1. To allow for these in detail for the whole state would necessitate an analysis beyond the scope of this study. The summary shown on page 16, however, referring to Riverside, Orange, and Los Angeles counties, indicates the average ratios and their distribution according to cities of varying size.

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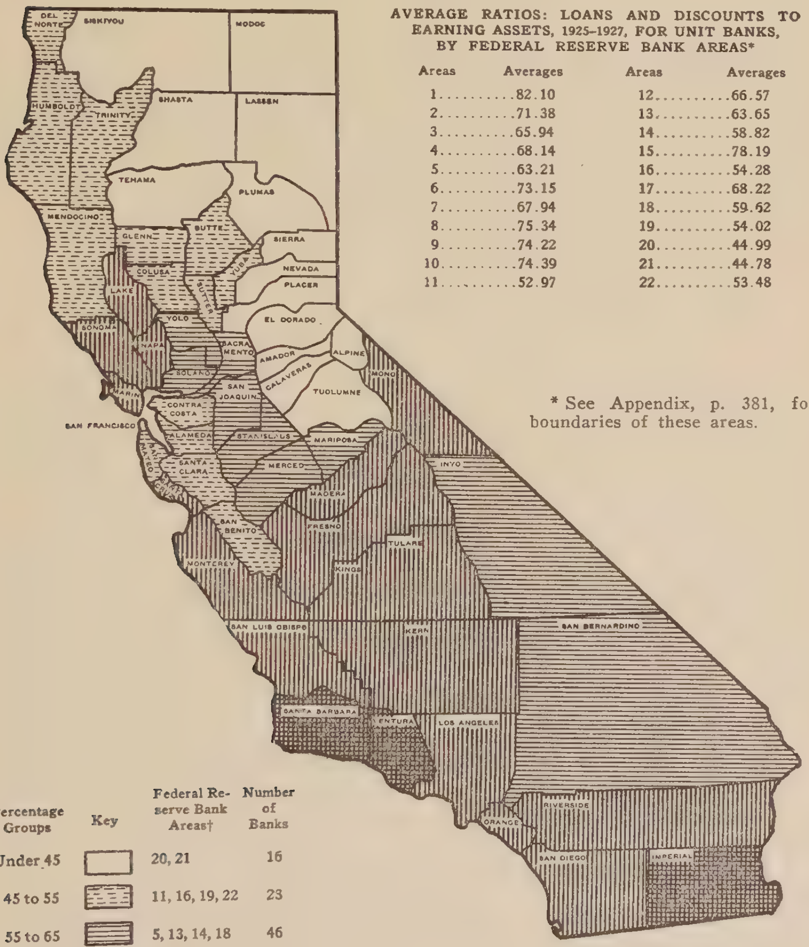
[1] The zones on Chart 1 and on similar charts later presented are consolidations of the areas of the state as defined by the Federal Reserve Bank of San Francisco. For a chart giving these areas, see the Appendix, p. 381.

[2] "Areas," as fixed by the Federal Reserve Bank of San Francisco. See Chart 96, Appendix, p. 381.

CHART 2

Regions of California Having Unit Banks with Classified Average Ratios of Loans and Discounts to Earning Assets, 1925 to 1927



AVERAGE RATIOS: LOANS AND DISCOUNTS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	82.10	12	66.57
2	71.38	13	63.65
3	65.94	14	58.82
4	68.14	15	78.19
5	63.21	16	54.28
6	73.15	17	68.22
7	67.94	18	59.62
8	75.34	19	54.02
9	74.22	20	44.99
10	74.39	21	44.78
11	52.97	22	53.48

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas†	Number of Banks
Under 45	☐	20, 21	16
45 to 55	⬚	11, 16, 19, 22	23
55 to 65	▤	5, 13, 14, 18	46
65 to 75	▥	2, 3, 4, 6, 7, 9, 10, 12, 17	50
75 and over	▦	1, 8, 15	49

† See p. 381.

Ratios: Loans and Discounts to Earning Assets	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	65	36	13	6*	4*	6*
Under 55.00	10	6	2	.....	.....	.....
55.00 to 65.00	11	7	2	.....	.....	.....
65.00 to 75.00	23	11	7	.....	.....	.....
75.00 to 85.00	13	5	2	.....	.....	.....
85.00 and Over	8	7	.....	.....	.....	.....
Riverside County	68.14	69.45	.....†	63.22	.....	.....
Orange County	66.29	63.13	67.41	.....†	.....	.....
Los Angeles County	67.99‡	69.21	63.13	72.24	69.34	72.04
Average	68.13	68.26	64.34	70.85	69.34	72.04

* Too few cases to be distributed.
† Too few banks to report separately.
‡ Does not include the city of Los Angeles.

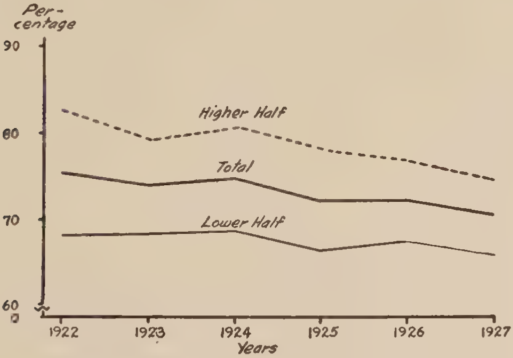
So much for the levels as determined for different types and classes of banks for the years in question. These levels, as fixed by averages or by characteristic amounts, however, change from year to year. Study of the changes isolates certain patterns which are common to the different bodies of data.

For the sixty-four cities throughout the country, and for the eight cities in the Twelfth District, for the years 1922 to 1927, there are, respectively, 320 and 40 changes possible. During these years, for banks in the former group of cities, there are 179 decreases and 141 increases; for the latter group, 23 decreases and 17 increases, the proportion of the total number of changes representing decreases being, respectively, 56 and 58 per cent. The net average year-to-year change, in the case of the banks in the sixty-four cities, is a decrease of 0.91 per cent per year; that for those in the eight cities, a decrease of 1.00 per cent per year. In securing these net amounts, however, no account is taken at a given time of the ratio-levels of the banks in the different cities, and these, it has been observed, vary. It is, therefore, of interest to determine the nature of the year-to-year changes in the ratios of loans and discounts to earning assets for the banks in cities according to their ratio-levels. One way of doing this is as follows: (1) Array the cities from the lowest to the highest ratios in a given year, say 1922. (2) Calculate the average ratios year by year for the thirty-two cities having the lowest, and for the thirty-two having the highest ratios, the same cities being included in the respective groups each year. (3) Observe the direction of change in subsequent years characteristic of each group. Repeat this process, the years of array being 1923, 1924, and so forth, and then compare the directions of change. When this is done for the sixty-four cities, the year of array being 1922, it is found, as illustrated in Chart 3, that the decrease is greater for cities the ratios of which are relatively high, than it is for those the ratios of which are relatively low. These conditions generally obtain irrespective of the year of array.

CHART 3

Regression of Ratios of Loans and Discounts to Earning Assets for National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927

(Arrayed in 1922—same banks each year)



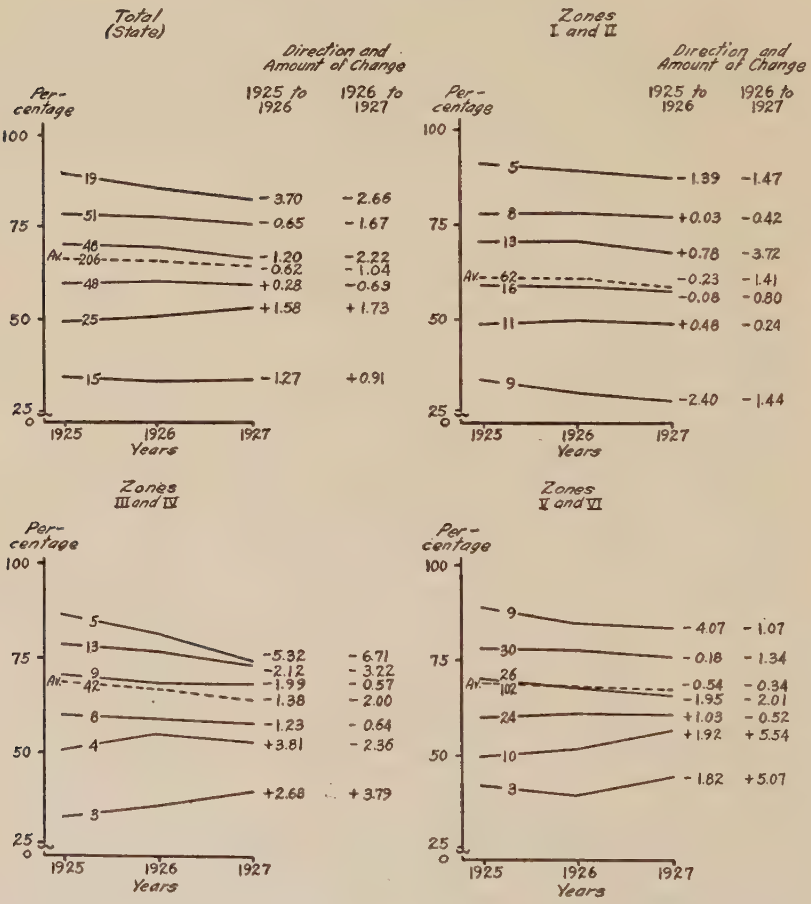
Are similar tendencies found for the member banks in California? To answer this question it is necessary only to array the bank ratios in 1925, to calculate the average ratios in the distinctive portions of the arrays in 1925, 1926, and 1927, and to compare the amounts. When this is done, the results graphically shown in Chart 4 (p. 18) are secured. It is apparent that, although the general direction of change is downward between 1925 and 1926, and 1926 and 1927, the higher the ratios the greater the fall. Indeed, for ratios which are relatively low in 1925, the direction of change is generally upward.

Here are two bodies of data covering somewhat different periods, the one being city ratios for national banks, and the other being ratios for individual member banks in California, which

CHART 4

Regression of Ratios of Loans and Discounts to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)



agree in showing that when ratios of loans and discounts to earning assets are relatively low they decrease less than when they are relatively high. For the California members, those which are relatively low increase, notwithstanding the fact that the general direction of change for the entire number of banks is downward, and that this rate is markedly accelerated for those which are relatively high. This pattern of change, as shown in Chart 4, generally holds for member banks in different zones of the state. It should be remembered that in the year-to-year comparisons just presented the ratios of the same institutions are considered.

If, on the other hand, the ratios are re-arrayed each year, comparisons are made between the average ratios in successive pairs of years, and the results are totaled and averaged for all pairs of years, the patterns of change presented and illustrated above are duplicated. This type of analysis makes it possible to secure measures of change not only for member banks in California and for national banks in the sixty-four cities but also for national banks in the cities in the Twelfth District.

CHART 5

REGRESSION OF RATIOS OF LOANS AND DISCOUNTS TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1922 TO 1927, FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES

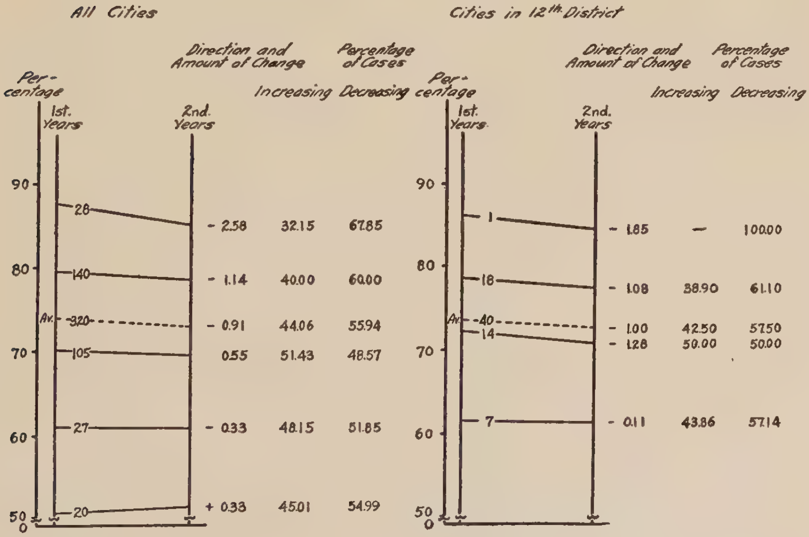


Chart 5, for the national banks, illustrates the average net change in ratios of loans and discounts to earning assets for all of the pairs of years between 1922 and 1927. It will be seen for both bodies of data, first, that the net year-to-year direction is downward; and, second, that the higher the ratios the greater the decrease. Moreover, not only do the average net changes, but also the number of changes at the different levels follow this pattern. Ratios which are low do not as a rule go lower; those which are high do not generally go higher. Rather, those which are high tend to decrease, and those which are low tend to increase, regression to type being reflected not only in the average net changes but also in the number of changes which takes place.

Similar patterns derived by the same method are found to characterize member banks in California, the results for the combined pairs of years, 1925 to 1926 and 1926 to 1927, being presented in Chart 6. Moreover, systematic changes are found in each zone of the state. That is, notwithstanding the fact that the average ratios by zones, as shown in the following summary, decrease from year to year, these decreases generally occur in the ratios which in a given year are relatively high. For those which are low, the net and typical change is upward.

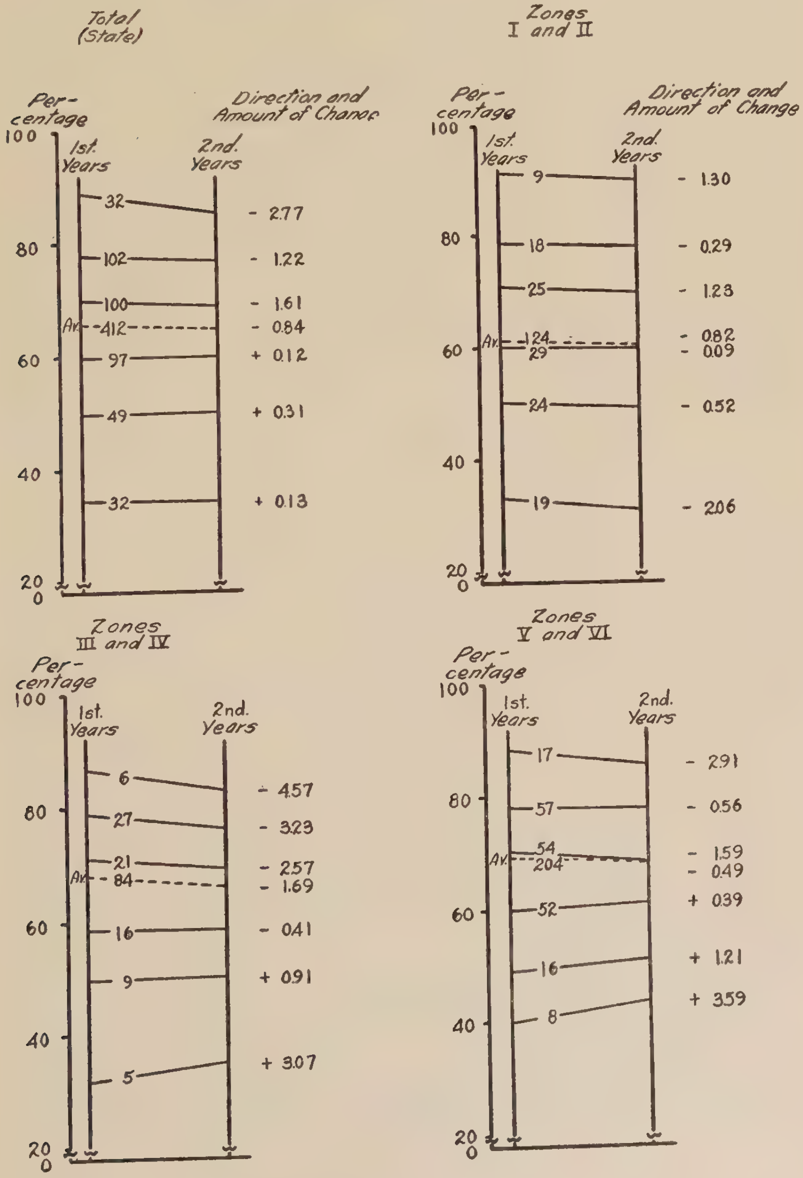
Zones	Ratios: Loans and Discounts to Earning Assets		
	1925	1926	1927
I and II	61.20	60.97	59.56
III and IV	68.78	67.40	65.40
V and VI	68.92	68.38	68.04

Two independent types of analyses for national banks by cities and for individual member banks in California agree in showing that ratios of loans and discounts to earning assets regress to type. In the periods under review, the general direction of change from year to year and over a series of years is downward. Between 1922 and 1927 for the sixty-four cities, the ratios fall from 75.42 to 70.87; for the eight cities in the Twelfth District, from 75.44 to 70.44. So far as the California member banks are concerned, the ratios for the total number of banks and for each of the types, except national banks with branches, those for each volume (earning assets) group, those for each city-size group, and those for banks by zones, as classified, decrease.

This characteristic change, however, does not, to the same extent, apply to each of the bank or city ratios. In the flux, it is the rule for those which are relatively low to decrease least (or to increase), and for those which are relatively high to decrease most. While this pattern characterizes the averages of groups, it also tends to hold for individual instances making up these groups,

CHART 6

Regression of Ratios of Loans and Discounts to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



a fact revealed by observing the relative number of cases at the different ratio-levels which increase or decrease.

Such behavior seems to accord with common sense and with general expectations. Banks, wherever located, serve varying business needs, and in the face of competition with each other and in response to the demands of industry and trade they distribute their earning assets in varying proportions as between loans and discounts, and investments. Such proportions establish standards which over short periods tend to remain much the same. But from these levels changes occur, these being brought about by expanding or by contracting business, engendered by forces which tend to be alike at a given time in different parts of the country. Bankers are anxious, under advantageous conditions, to expand their loans. In doing so, however, they encounter difficulties growing out of the state of business and out of similar desires on the part of their competitors. If ratios of loans and discounts are relatively low, business sagacity tends to increase them; if they are too high, business prudence suggests the wisdom of reducing them. Indeed, under competition, the expansion of loans, relative to the earning assets, by banks the ratios of which are low, will normally have the effect of reducing those of banks which are high. It is a measurement of this give-and-take, in a given state of trade and industry, which is registered in the pattern and amounts of change described above.

An over-all picture of the ratios of loans and discounts to earning assets for national banks by cities for the years 1922 to 1927 indicates a range from "Less than 50" to "85 and more" per cent. Some of the city ratios are customarily below and others are usually above the average for all of the cities combined. That is, ratios stand at different levels, the amounts for individual cities fluctuating about these levels from year to year and, as has been seen, changing according to a definite pattern. Other ratios of these same banks similarly vary and have different customary levels. In their changes from year to year they, too, follow patterns, the nature of which is given in the chapters which follow.

In what has already been said, ratios of loans and discounts have been treated as an independent series—as though they had no relation to others for given banks—although, looking toward an explanation of the behavior pattern of changes in these ratios, it is indicated that banks constitute a system, and that banking functions in this system are interrelated. Even more closely interlocked than the functions and processes of separate institutions, however, are those of the same institution, a fact attested by the consequences of, for instance, an overexpansion of loans. What these interrelations are for a given institution its management may know, provided (1) that data are available which will show them, and (2) that the disposition to know is actually present and acted upon. What interpretation is to be given to them in bank management, however, must always be open to doubt because the conditions and periods to which they apply may be unique, without the management being conscious of this fact,[1] due, among other things, to lack of knowledge of norms or standards peculiar to types of institutions, localities, periods of time, conditions of trade and industry, and so on. All of these and other variables point to the need of a knowledge of collective experience broad and varied enough to serve as standards of reference, from which variations will be experienced but according to which they may be properly interpreted. It is one purpose of this study[2] to establish such standards.

With loans and discounts, relative to earning assets, varying from city to city are found differences in other ratios in these same cities. In the case of gross earnings in terms of earning assets, the amounts range from "Less than 5.25" to "8.75 and Over"; for demand deposits to earning assets, from "Less than 30.00" to "90.00 and Over"; for total expense to earning assets, from "Less than 3.75" to "6.75 and Over"; and for net earnings to earning assets, from "Less than 1.00" to "2.75 and Over."

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[1] An illustration is in point. To the question, "What sort of a banking business, respecting the character of its earning assets and of its deposits, would you strive to establish if you were perfectly free in these respects?" the following points of view were expressed by two vice-presidents in the same institution. Said one, "I would strive to secure only demand deposits, and would do only a loan business." To the same question, the other answered, "I would court time deposits, carry relatively large investments, and minimize commercial loans." In this case, both points of view reflected judgments based upon unique experiences—contact with an essentially commercial bank on the part of one and with an investment institution on the part of the other. At the time of the interview, these separate banks had been merged into a single institution.

[2] The same intent in part lay back of the writer's *Banking Standards under the Federal Reserve System* (A. W. Shaw Company, Chicago, 1928), in which for a different period of time and for other places, similar standards are determined and stated quantitatively.

These are ranges of the amounts for national banks at one time or another during the years 1922 to 1927. The levels at a given time and the changes from year to year are discussed separately in the several chapters devoted to them, reference to which from time to time will be necessary to an understanding and an interpretation of the interrelation of the series in the same banks.

During the years under review, the year-to-year and the over-all directions of change for national bank ratios of loans and discounts to earning assets are downward. So, too, are those of ratios of demand deposits to earning assets.[1] But in these changes, banks with ratios at various levels share differently, the tendency being for those which are relatively high to fall more than those which, in the scale of "highs" and "lows," are low.[2] Such is the behavior of change when ratios for groups of banks are measured against a background of "all banks." But each bank has its own scale or level, its ratios being due in part to its position geographically, to tradition, to trade, and so on—in a word, to internal and external conditions. Moreover, bank ratios are interrelated. Common sense only is required for this observation. It is, however, inadequate as a basis for determining the nature and the degree of association, for measuring them for given series, and for comparing them for different series. Moreover, "common sense" too frequently runs in grooves—it is "common" for a restricted experience—the very thing which must be transcended if reference points, standards, or norms are to be secured. It is these which are being sought; they reside in the "run of experience," in collective behavior, part of which is individual but acquired in a business world in which not one but many banks (in this case) operate. It is this collective behavior which is being analyzed and which leads to broad generalizations such as the following:

(1) When bank ratios of loans and discounts to earning assets are relatively high or low, or vice versa, bank ratios of gross earnings to earning assets are relatively high or low, or vice versa. Contrariwise, (2) when bank ratios of gross earnings to earning assets are high or low, or vice versa, bank ratios of loans and discounts to earning assets are high or low, or vice

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[1] See p. 99.

[2] See p. 100.

versa. Moreover, (3) the higher or lower the loan ratios, the higher or lower are the gross earnings ratios; and the higher or lower the ratios of gross earnings, the higher or lower are those of loans and discounts.

Such is the collective—the general run of—experience of national banks by cities the country over; for certain of those in the Twelfth Federal Reserve District; for member banks in California; for these by class (national, state, etc.), by size of city of location, by volume (average earning assets), and by zones within the state. It is the "universal" experience, the trend, the tendency, the economic "law" of association. How is it derived? In this manner, for national banks by cities:

The basic data are yearly amounts of earning assets, loans and discounts, and gross earnings for each of the years 1922 to 1927, these being taken from the annual reports of the Comptroller of the Currency. The amounts of loans and discounts and of gross earnings for each of sixty-four cities are expressed as ratios of the corresponding amounts of earning assets, the arithmetic process in the case of the loans, for instance, being to divide this amount by the earning assets and multiply by 100. This process is carried out for both the loans and discounts and the gross earnings, the results being 384 loan ratios and 384 gross earnings ratios, one for each city for each year. Similar ratios are secured for each city for the years combined.

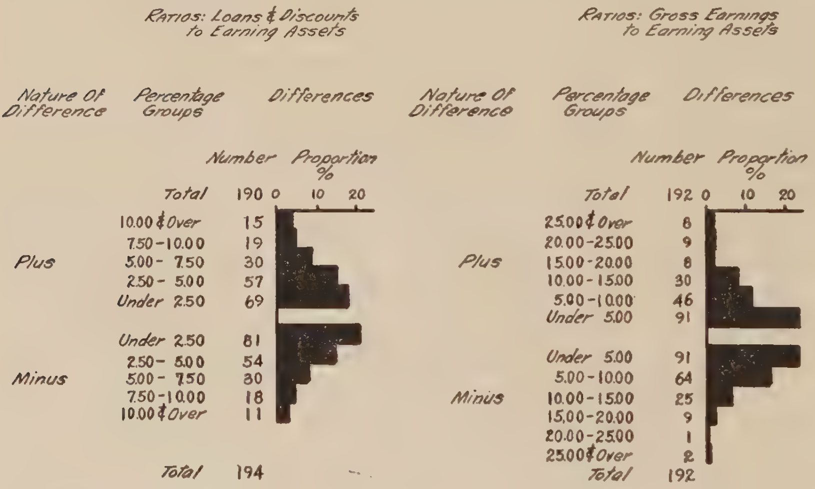
Study of the individual ratios in the respective series shows them to vary widely when compared with each other, but to be relatively less variable when compared with their own levels, as measured by the averages for the six-year period. Measurements of yearly variation from type are desired for each city. This is as true of the one as of the other series of ratios, inasmuch as in both, internal conditions of management and external conditions of trade, industry, and so on, are registered in such amounts—both taking effect at the customary levels obtaining for banks in different parts of the country.

Measurements of variation from type may be made in actual or in percentage amounts, more appropriately in the latter in this study because equal differences from city to city are significant only in terms of the levels to which they apply, and these differ. What are wanted are comparative measurements of yearly fluctuations, not only in one but in all series, these fluctuations, by a process soon to be described, becoming the basic data for detecting the nature and for measuring the degree of interrelation which obtains between series of data when the collective experience of banks is considered as a whole.

From the original series of ratios for each city, percentage differences from type are, therefore, determined, these taking the form of plus or minus quantities relative to the average for the period 1922–1927. In classified form for all of the years, they are as shown in Chart 7.

CHART 7

Frequencies of Percentage Differences from Types for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927



It is seen that the differences in the ratios for loans and discounts range from 10 per cent and more above to 10 per cent and more below the averages; and that the corresponding range for gross earnings is from 25 per cent and more above to 25 per cent and more below—the bulk of the frequencies in each series, as the graphic representations show, having, however, relatively small deviations. These two distributions, whatever interest they may have in themselves, here stand alone. There may be nothing in common between them other than the fact that they characterize a given number of national banks. On the other hand, the institutions in the plus (or minus) section of one may be found in the plus (or minus) section of the other, or vice versa. Not only may this be true, but it may be, indeed it is, the fact that the higher (lower) the positions of banks in one the higher (lower) are their positions in the other. This fact, however, is not disclosed in the data as presented. Neither is it possible, with them in this form, to determine the degree of association. How this is accomplished is described immediately below, the associated variables being given in Table 1 (p. 28).

The method of manipulating the percentage differences in the two series is as follows:[1] (1) Choose suitable groups into which the percentage differences for the respective series may be placed. (Those used for the series in question are given in Chart 7 immediately above.) (2) Construct a form, such as that in Table 1, into which in each year the paired percentage differences of the related series may be inserted. To illustrate: The percentage difference for the loans and discounts ratio for national banks in New York City in 1922 is +1.53; for the same city and year and for the same banks, the percentage difference for the gross earnings ratio is +8.16. Having elected to place the loans and discounts ratios on the vertical and the gross earnings ratios on the horizontal axis, the position of the two ratios for this year is defined by the respective class-groups into which they fall. Such placements, by years, are made for the paired ratios for each of the sixty-four cities. For the years available there are six such forms, in the blocks (cells) of which are placed the paired percentage differences, 384 in all. (3) Total the respective frequencies by lines and columns. (4) Add and then average the amounts in each line so as to secure the average percentage difference of the ratio of the independent variable (loans and discounts in the illustration). (5) Add algebraically and then average the amounts in each line so as to get the net average percentage difference of the ratio of the dependent variable (gross earnings in the illustration). (6) Reverse the processes in steps 4 and 5 so as to secure the average percentage difference of the ratios of gross earnings to earning assets (now treated as the independent rather than as

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[1] This statement will serve to describe the method not only as applied to these but to other series when percentage differences from type for national banks are being considered. For a full statement of methodology, see pp. 368–371.

TABLE 1

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average							Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Position	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over			
Above the Average	10.00 and over	2	3	1	3	2	3	..	1	..	..	..	..	15	+13.46	+13.21
	7.50–10.00	1	..	..	4	6	3	1	2	1	1	..	..	19	+ 8.37	+ 5.69
	5.00– 7.50	2	1	..	6	5	9	3	3	..	1	..	..	30	+ 6.04	+ 5.52
	2.50– 5.00	..	3[sf]	3[sf]	6	10[sf]	12[ola]	13	6	2	1	..	1	57	+ 3.53	+ 2.43
	Under 2.50	1[sf]	1	3	6[sf]	7	16[o]	22	8[la]	5[o]	..	..	..	69	+ 1.29	+ 1.36
Below the Average	Under 2.50	..	..	..	4	9[ola]	23[la]	18	22[la]	4	1	..	..	81	— 1.14	— 1.34
	2.50– 5.00	...	..	..	1	4	11	20	9	5	3	..	1[sf]	54	— 3.66	— 3.44
	5.00– 7.50	1	1	..	..	..	9	10	5	4	..	..	..	30	— 6.20	— 8.93
	7.50–10.00	..	..	1	..	2	2	3	6	3	1	..	..	18	— 8.77	— 4.02
	10.00 and over	1	..	..	..	1	3	1	2	1	1	1	..	11	—14.68	— 2.00
Total	No. of City Bank-Years	8	9	8	30	46	91	91	64	25	9	1	2	384 384		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+34.94	+21.49	+17.88	+11.87	+ 7.22	+ 2.07	— 2.66	— 6.66	—11.83	—17.02	—22.83	—31.59			
	Ratios: Loans and Discounts to Earning Assets (Net)	+ 4.06	+ 5.20	+ 3.69	+ 4.34	+ 2.19	+ 0.14	— 1.05	— 1.79	— 2.58	— 2.77	—14.73	— 0.17			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

the dependent variable), and the net average percentage difference of the ratios of loans and discounts to earning assets (now treated as the dependent rather than as the independent variable).

The results of carrying out these several steps for ratios of loans and discounts and of gross earnings to earning assets appear in Table 1. They are to be interpreted as follows: (1) The figures in the blocks (cells) represent the number of paired percentage differences for the years 1922–1927, combined. By the alignment of the distribution it is seen that as a rule ratios of loans and discounts which are above (below) their averages are associated with ratios of gross earnings to earning assets which are above (below) their averages. (2) The summary columns at the right show the net average percentage differences in gross earnings ratios for given average percentage differences in ratios of loans and discounts. (3) Those at the bottom indicate the net average percentage differences in ratios of loans and discounts associated with given average percentage differences in ratios of gross earnings.

Observe both the amounts and their signs in the two sets of summaries. They agree throughout. That is, on the average, if loans and discounts ratios are above (below) their averages, ratios of gross earnings to earning assets are above (below) their averages—consult the columns at the right. Moreover, if gross earnings ratios are above (below) their averages, loans and discounts ratios are above (below) their averages—note the columns at the bottom. (It should be remembered that the averages in the two series are those secured from pairs of ratios—New York City, as in the illustration above, and all other cities supplying data.) But this is not all. The more (less) loans and discounts ratios differ from their averages, the larger (smaller) are the net average percentage differences in gross earnings ratios. Then, too—a matter which is different—the more (less) gross earnings ratios differ from their means, the larger (smaller) are the percentage deviations of loans and discounts ratios from type. That is, to compress still further the meaning of this table, percentage deviations of loans and discounts (gross earnings) ratios are positively correlated by both amount and direction with percentage deviations of gross earnings (loans and discounts) ratios.

The foregoing results characterize one body of data and one series of years. Are similar relations found elsewhere? They are. They hold for national banks, by cities, located in the Twelfth District. Moreover, they obtain for member banks in California, howsoever classified. Of this, more is said presently.

By methods similar to those just presented, the relations between ratios of loans and discounts and other ratios for national banks are determined. These are summarized in Table 2, loans and discounts ratios in all cases being treated as the independent variable. This table shows the nature of the percentage differences and the net percentage amounts by which ratios of total expense and of net earnings to earning assets deviate from their means for corresponding percentage deviations of loans and discounts. It will be observed, for the national banks by cities, that for the country as a whole and for the Twelfth District (1) when ratios of loans and discounts are above (below) their means—1922–1927—ratios of total expense and of net earnings are above (below) their corresponding averages; and (2) the greater the percentage deviations in the first series the greater are those in the others. To this last generalization there is an occasional exception. The rule, however, clearly obtains.

It is not apparent that a direct causal connection obtains between high (low) loans and discounts and high (low) total expense, amounts of both being expressed as ratios to earning assets. As will be shown later,[1] this relation is in part a reflection of the causal connection between ratios of loans and discounts and of demand deposits to earning assets, and of demand deposits and of total expense to earning assets.

Net earnings ratios are functions not only of ratios of gross earnings and of total expense directly, but also indirectly of them in relation to ratios of loans and discounts. This much is apparent from Table 2, columns 6 and 11, in which the net percentage deviations for net earnings ratios are presented for given percentage variations of ratios of loans and discounts to earning assets. It is found (1) that net earnings, in terms of earning assets, are relatively high (low) when ratios of loans and discounts are high (low), and (2) that the net percentage amounts by which they deviate from type vary directly with similar deviations of loans and discounts. In this connection, see the frequency surface in the Appendix, p. 405.

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[1] *Infra,* p. 111.

TABLE 2

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Difference in Ratios: Loans and Discounts to Earning Assets			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Average Percentage Differences Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
	Percentage Groups	Average Percentage		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.			G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
	1	2	3	4	5	6	7	8	9	10	11
	Total (Av.)	+ 4.38	190	+3 .71	+ 3.35	+ 3.88	+ 3.09	26	+ 4.67	+ 3.22	+ 9.06
Above the Average	10.00 and over	+13.46	15	+13.21	+12.49	+14.46	+ 4.97	13	+ 6.56	+ 5.54	+10.08
	7.50–10.00	+ 8.37	19	+ 5.69	+ 4.02	+ 9.28					
	5.00– 7.50	+ 6.04	30	+ 5.52	+ 5.91	+ 3.33					
	2.50– 5.00	+ 3.53	57	+ 2.43	+ 2.52	+ 1.54					
	Under 2.50	+ 1.29	69	+ 1.36	+ 0.75	+ 2.26	+ 1.21	13	+ 2.78	+ 0.90	+ 8.03
Below the Average	Under 2.50	— 1.14	81	— 1.34	— 0.83	— 2.12	— 1.22	13	— 0.96	— 0.27	— 3.51
	2.50– 5.00	— 3.66	54	— 3.44	— 3.78	— 3.11	— 5.18	9	— 4.42	— 2.16	—10.51
	5.00– 7.50	— 6.20	30	— 8.93	— 1.31	+ 0.87					
	7.50–10.00	— 8.77	18	— 4.02	— 4.24	— 1.89					
	10.00 and over	—14.68	11	— 2.00	+ 0.57	— 7.51					
	Total (Av.)	— 4.10	194	— 2.14	— 1.96	— 2.22	— 2.84	22	— 2.37	— 1.04	— 6.37

From the details of Tables 1 and 2, therefore, it follows for national banks that, relatively

High ratios of loans and discounts to earning assets give
high ratios of gross earnings, of total expense,[1] and of net earnings to earning assets.

Low ratios of loans and discounts to earning assets give
low ratios of gross earnings, of total expense,[1] and of net earnings to earning assets.

The higher or lower the ratios of loans and discounts to earning assets,
the higher or lower are the ratios of gross earnings, of total expense, and of net earnings to earning assets.

The ratios of operation of national banks change during the years 1922–1927. Are the changes in the various series of ratios related in any way? This question can readily be answered by using methods of analysis similar to those just presented to detect correlation of the deviations from type, the only modification necessary being to deal with paired year-to-year percentage changes rather than with paired percentage deviations. The results from carrying through the steps with changes (analogous to those with deviations)[2] are presented in Table 3. This table gives (1) the directions and net year-to-year percentage amounts of change in ratios of gross earnings for given percentage amounts of change in loans and discounts ratios (the summary columns at the right); (2) the directions and net year-to-year percentage amounts of change in ratios of loans and discounts with given percentage amounts of change in gross earnings (the summary columns at the bottom); and (3) the distribution of the paired percentage amounts of change in the two series—all data referring to the years 1922–1927.

To what conclusions do the details lead? It is evident: First, that when ratios of loans and discounts increase (decrease), the net result is for ratios of gross earnings to increase (decrease). Conversely, when ratios of gross earnings to earning assets increase (decrease) they are accompanied by net increases (decreases) in loans and discounts ratios. (This is not always true for individual ratios, as the distributions of the paired frequencies

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[1] See the comment on p. 30 respecting the causal connection between ratios of total expense and of loans and discounts.

[2] See pp. 27–29.

TABLE 3

Correlation of Percentage Year-to-Year Changes of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

Ratios: Loans and Discounts to Earning Assets (*Percentage Change*)		Ratios: Gross Earnings to Earning Assets (*Percentage Change*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Change	
		Increases						Decreases								
Direction of Change	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over		Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Increases	10.00 and over	1	1	1	..	1	2	..	..	1	..	..	..	7	+12.52	+10.23
	5.00–10.00	..	..	4	3	7	4	4	5	3	1	..	1	32	+ 7.00	+ 1.37
	Under 5.00	2	2	3^{o}	7^{sf}	14^{lasf}	28^{la}	13	16^{o}	8	5^{sfo}	3	1	102	+ 2.22	+ 0.26
Decreases	Under 5.00	1	2	3	2^{la}	14^{o}	20	24	21^{lasf}	12	8	2	4	113	— 2.40	— 3.54
	5.00–10.00	2	1	1	3	3	7^{o}	7	9	6	2	5	1^{sf}	47	— 7.14	— 2.93
	10.00 and over	1	..	1	..	..	2	4	1	2	3	2	3	19	—15.27	—10.30
Total	No. of City Bank-Years	7	6	13	15	39	63	52	52	32	19	12	10	320 / 320		
	Average Percentage Change: Ratios: Gross Earnings to Earning Assets	+39.36	+22.62	+17.11	+11.98	+ 6.97	+ 2.04	— 2.42	— 7.19	—11.55	—17.18	—22.13	—34.49			
	Average Percentage Change: Ratios: Loans and Discounts to Earning Assets (Net)	—2.66	+1.67	+1.42	+0.46	+1.65	—0.40	—2.17	—1.04	—1.73	—3.25	—5.55	—6.47			

^{sf} San Francisco
^{o} Oakland
^{la} Los Angeles

in the lines and columns, respectively, of the table make clear. Yet it *tends* to be true, a fact indicated by the *places* of concentration of the frequencies.) Second, the greater the increase (decrease) in ratios of loans and discounts, the greater the net increase (decrease) in ratios of gross earnings. Similarly, the greater the increase (decrease) in ratios of gross earnings, the larger the net increase (decrease) in loans and discounts ratios.

Such are the relations between changing ratios of loans and discounts and of gross earnings for national banks, by cities. Similar relations also obtain between loans and discounts and total expense, both measured in terms of earning assets. This fact is clear from Table 4, column 5.

For national banks by cities in the Twelfth District, changes in ratios of gross earnings to earning assets are positively correlated with changes in ratios of loans and discounts. Observe, however, that the positive correlation is of a unique type. Decreases in the former accompany both increases and decreases, respectively, in the latter. Observe, also, that similar conditions hold for ratios of total expense and of net earnings for national banks in this district and for ratios of net earnings in all districts. For net earnings ratios generally the net change is downward, but the fall is less when ratios of loans and discounts are increasing than it is when they are decreasing—positive association being present not only by direction but also by amount of change.

For national banks, by cities, it is, therefore, concluded from the analysis in Tables 3 and 4 that

When ratios of loans and discounts increase, ratios of

> gross earnings, of total expense, and of net earnings increase, or decrease less than when ratios of loans and discounts decrease.

When ratios of loans and discounts decrease, ratios of

> gross earnings, of total expense, and of net earnings decrease, the percentage amounts of change in the latter varying directly with those in the former ratios.

These conclusions and those on page 32 are derived from a study of the association between ratios for national banks by cities. It is obvious, from the standpoint of bank management, that these relations are less significant than are those of a similar sort, if found to hold, which apply to individual institutions. Despite this fact, they seem to be important, if for no other reason

TABLE 4

CORRELATION OF CITY YEAR-TO-YEAR PERCENTAGE CHANGES OF NATIONAL BANK RATIOS IN PAIRED SERIES, 1922–1927

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Year-to-Year Percentage Changes in Ratios: Loans and Discounts to Earning Assets			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Direction of Change	Amount of Change		No. of City Bank-Year Changes	Dependent Variables—Net Average Percentage Change from Year to Year			Average Change Independent Variable	No. of City Bank-Year Changes	Dependent Variables—Net Average Percentage Change from Year to Year		
	Percentage Groups	Average Percentage		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.			G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
	1	2	3	4	5	6	7	8	9	10	11
	Total (Av.)	+ 3.81	141	+ 1.00	+ 2.47	—1.30	+2.14	17	—1.94	—1.09	— 3.13
Increasing	10.00 and over	+12.52	7	+10.23	+15.42	—5.04	+7.98	1	—3.83	—0.64	—13.38
	5.00–10.00	+ 7.00	32	+ 1.37	+ 2.87	—0.13					
	Under 5.00	+ 2.22	102	+ 0.26	+ 1.46	—1.41	+1.55	16	—1.82	—1.12	— 2.49
Decreasing	Under 5.00	— 2.40	113	— 3.54	— 3.40	—0.29	—2.58	17	—2.04	—0.05	— 7.22
	5.00–10.00	— 7.14	47	— 2.93	— 1.34	—4.58	—7.61	6	—7.73	—8.42	— 4.84
	10.00 and over	—15.27	19	—10.30	— 9.51	—0.85					
	Total (Av.)	— 5.01	179	— 4.10	— 3.51	—1.47	—3.89	23	—3.52	—2.23	— 6.60

than that they agree with the relations soon to be presented for individual banks in California, and with those found in another place[1] to hold for all member banks by Federal Reserve districts. Moreover, the relations, in the instance of gross earnings, seem to accord with normal expectations.

The primary sources of a bank's earnings are interest and discount. Moreover, a bank, *qua* bank, is primarily a credit institution, exchanging its own well-known credit for less well-known credit. That is, its primary purpose is that of lending and only incidentally of investing its resources. This is primarily the situation for so-called commercial banks, and it is these, for the most part, to which the ratios used above apply. With lending as the major function of such banks, and the measurement of the degree to which this is carried out being found in the relative proportion of its earning assets comprehended by loans, positive correlation is to be expected. But in this as in other phases of business and of social affairs, "perfect" correlation is never found. The gross earnings ratios of some banks are relatively low (high) when their loans and discounts ratios are high (low). Moreover, for some institutions, they decrease (increase) when ratios of loans and discounts from year to year increase (decrease). Such conditions, however, are exceptional: they are not the rule. And the significant thing, so far as standards of operation are concerned, is that there is a rule and that it appears to be general.

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[1] Cf., Secrist, *Banking Standards under the Federal Reserve System, passim.*

It is general for member banks in California as a whole; for those in distinctive parts of the state; for those of the same size (average earning assets); for those located in cities of the same population—class-sizes in 1920; and for those of different type. This is apparent from the summaries which follow, and from the frequency surfaces in the Appendix, Tables 80 to 91, inclusive, according to which the bases of classification mentioned above are used. But how are the nature and the degree of association determined?

Data relating to the operation of member banks in California cover the years 1925–1927. This is too short a period in which to determine type ratios and year-to-year changes for each institution.[1] Accordingly, the method used to determine the association between series of ratios for national banks is in this case inappropriate. A modification of the following sort is used: First, the ratios each year, in the series to be correlated, are expressed as percentage differences from (*a*) the average for all banks, (*b*) the bank-class average, (*c*) the city-group average, and (*d*) the volume-group average. Second, the deviations, as thus determined, are paired and then distributed in a form analogous to that used for ratios of national banks, one set of forms each year being used for each series of differences. The yearly distributions are then totaled to give the results for the years 1925–1927, combined. With the paired deviations in this form, the further procedure is the same as that used for national banks and described earlier.[2]

Table 5, in the last two columns at the right and in the two columns at the bottom, gives the results of carrying through the various steps in this process. The frequencies in the body of the

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[1] See, however, the discussion in Chapter IX.

[2] For a complete statement of the methods of manipulating the data for California banks, see pp. 371–377.

TABLE 5

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from Respective Yearly Averages of the Respective Volume Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years										No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00		Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	1	..	..	1	+50.00	+0.71
	40.00–50.00	..	..	..	3	2	1	5	..	1	1	13		
	30.00–40.00	1	1	3	6	10	16	10	3	..	..	50	+30.00	+7.54
	20.00–30.00	1	1	2	4	12	25	25	6	..	..	76		
	10.00–20.00	..	..	2	2	14	43	42	20	2	..	125	+10.00	+1.47
	Under 10.00	2	3	5	13	28	33	57	23	6	..	170		
Below the Average	Under 10.00	1	1	1	5	21	29	53	18	..	..	129	—10.00	—0.70
	10.00–20.00	1	..	2	1	3	28	35	22	7	..	99		
	20.00–30.00	1	..	..	2	6	12	21	23	2	1	68	—30.00	—4.48
	30.00–40.00	..	..	1	1	1	6	5	12	2	..	28		
	40.00–50.00	..	..	1	1	2	2	4	4	3	1	18	—50.00	—5.00
	50.00 and over	..	..	1	1	4	2	2	7	5	..	22		
Total	No. of Bank-Years	7	6	18	39	103	197	259	139	28	3	799 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+ 7.31		+ 6.23		+ 4.03		— 2.31		—17.90				

table represent the number of paired percentage differences. In this case, the association is determined for all member banks, the deviations in the ratios of loans and discounts and of gross earnings being taken from the yearly averages of the respective volume groups.

The alignment of the frequencies in Table 5 shows that ratios of loans and discounts and of gross earnings are positively correlated. It is the rule—not marked, however—for ratios of gross earnings to be relatively high (low) when ratios of loans and discounts are high (low). Observe as the bases for this generalization (1) the alignment of the frequencies, and (2) the signs and amounts by given lines in the two columns at the right of the table. Moreover, it tends to be true that when ratios of gross earnings to earning assets are relatively high (low), ratios of loans and discounts are relatively high (low). In this connection, observe (1) the alignment of the frequencies, and (2) the signs and amounts by given columns at the bottom of the table. Then, too, the higher (lower) the ratios of loans and discounts, the higher (lower) are the ratios of gross earnings. Contrariwise, the higher (lower) the ratios of gross earnings, the higher (lower) are the ratios of loans and discounts.

But as noted above, bank ratios may be high or low according to a number of standards. Those which are high for national unit banks may be low for state unit members.[1] Moreover, those which are low for banks with earning assets (average) of "$3,000,000 and Over" may be high for those with earning assets (average) of "Less than $1,000,000."[2] Accordingly, with a single, indeed with any, form of classification, differences in the ratios themselves and the association of these differences may not be fully revealed. The most satisfactory basis of measurement is to calculate the differences from type for individual banks. But this cannot be done. Accordingly, the banks are classified in different ways in the hope that by so doing basic relationships will be discovered—relations which are independent of the methods which are used.

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[1] See p. 12, where it is shown that the loans and discounts ratio for national unit members for the years 1925–1927, combined, is 10 points lower than that for state unit members.

[2] See p. 12 for the differences in the ratios for banks according to size (average earning assets).

Tables 6, 7, and 8, respectively, summarize the nature and degree of association of ratios of gross earnings, of total expense, and of net earnings with ratios of loans and discounts, all ratios being expressed in terms of earning assets, loans and discounts being the independent variable, and different bases of classifying the banks being used. For the independent variable—the stubs of the tables—provision is made for deviations which are positive ("Above the Average"), and negative ("Below the Average"), 20 per cent groups being employed. For each of the groups and its average, the even-numbered columns in Table 6, for instance, show the net percentage differences of the ratios of gross earnings to earning assets, these net amounts being those having average loans and discounts ratios of the type and amount indicated in the stub. In addition to these details, Table 6, for instance, opposite the stub sections—"Above the Average," and "Below the Average," and under the respective bank classes—provides (1) average differences for the independent variable (loans and discounts ratios), and (2) average differences for the corresponding dependent variable (gross earnings ratios).

So much for the arrangement of Tables 6, 7, and 8! What do they indicate the correlations to be?

First: High (low) ratios of loans and discounts to earning assets give high (low) ratios of gross earnings to earning assets (Table 6, pp. 40–41).

1. When ratios of loans and discounts are high or low, ratios of gross earnings are high or low, the bases of classifying the paired ratios being the same in the two series and being applied to banks classified in different ways. (Observe in this connection the correspondence between the signs for the totals of the independent and of the dependent variables in Table 6, according to which there are no exceptions to the rule for banks by classes, by location, and by size.)

2. The higher or lower the ratios of loans and discounts, the higher or lower are the ratios of gross earnings. For "All Banks," according to the several bases of classification, there is but a single exception to this rule (Table 6).

Second: High (low) ratios of loans and discounts to earning assets are accompanied by high (low) ratios of total expense to earning assets (Table 7, pp. 42–43).[1]

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[1] It is observed earlier that the connection in this case is probably indirect.

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL

Independent Variable: Loans and Discounts to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Loans and Discounts to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av.%	No.	Av.%	No.	Av. %	No.	Av. %	No.	Av. %
			1	2	3	4	5	6	7	8	9	10
Above the Average	Total	Number of Bank-Years	438	....	436	....	388	....	48	....	52	....
		Independent Variable: Av.	...	+16.39	...	+16.06	...	+16.80	...	+10.00	...	+10.00
		Dependent Variable: Av.	...	+ 1.99	...	+ 2.09	...	+ 2.21	...	+ 1.04	...	+ 3.65
	40.00 and over	+50.00	5	—19.00	10	+ 5.00	10	+ 5.00	...	....	...	....
	20.00–40.00	+30.00	140	+ 5.21	130	+ 3.23	127	+ 4.13	3	—35.00	5	+ 3.00
	Under 20.00	+10.00	293	+ 0.80	296	+ 1.49	251	+ 1.14	45	+ 3.44	47	+ 3.72
Below the Average	Under 20.00	—10.00	219	— 0.75	223	— 1.50	201	— 1.42	22	— 2.27	27	— 6.11
	20.00–40.00	—30.00	96	— 4.06	98	— 4.59	87	— 5.00	11	— 1.36	10	+ 2.00
	40.00 and over	—50.00	46	— 5.22	42	— 3.81	42	— 3.81	...	....	...	....
	Total	Number of Bank-Years	361	....	363	....	330	....	33	....	37	....
		Dependent Variable: Av.	...	— 2.20	...	— 2.60	...	— 2.67	...	— 1.97	...	— 3.92
		Independent Variable: Av.	...	—19.46	...	—18.83	...	—19.33	...	—13.79	...	—12.84

*City Sizes	Population (1920)
I and II................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

1. For banks having ratios of loans and discounts above (below) the averages for all banks, and above (below) those for banks by class, by size, and by location, the net average percentage ratios of total expense to earning assets are above (below) the corresponding average levels. That is, by position *alone,* as indicated by *net amounts,* correlation is positive and perfect.[1]

2. When loans and discounts of banks, relative to averages

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[1] "Perfect" for groups only; not for the detail of the series which comprise them.

6

Member Banks in California for 1925, 1926, and 1927 Combined
Dependent Variable: Gross Earnings to Earning Assets
Various Yearly Averages)

in Ratios: Gross Earnings to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
436	....	188	....	122	....	126	....	435	....	248	....	109	......	78	....
...	+16.28	...	+18.03	...	+18.85	...	+11.19	...	+16.13	...	+19.23	...	+13.53	...	+ 9.87
...	+ 2.61	...	+ 3.24	...	+ 3.03	...	+ 1.27	...	+ 3.21	...	+ 4.23	...	+ 1.42	...	+ 2.44
12	+ 1.67	4	+15.00	8	— 5.00	...	....	14	+ 0.71	12	+ 5.83	...	......	2	—30.00
130	+ 4.85	71	+ 6.41	42	+ 4.05	17	+ 0.29	126	+ 7.54	99	+ 7.63	25	+ 4.60	2	—10.00
294	+ 1.67	113	+ 0.84	72	+ 3.33	109	+ 1.42	295	+ 1.47	137	+ 1.64	84	+ 0.48	74	+ 3.65
224	— 2.23	97	— 2.53	63	— 0.40	64	— 3.59	228	— 0.70	131	+ 0.27	47	— 0.53	50	— 3.40
95	— 5.42	47	— 7.55	29	— 4.65	19	— 1.32	96	— 4.48	63	— 6.27	22	— 2.27	11	+ 1.36
44	— 5.45	22	± 0.00	17	— 5.59	5	— 9.00	40	— 5.00	32	— 5.00	8	— 5.00	...	....
363	....	166	....	109	....	88	....	364	....	226	....	77	......	61	....
...	— 3.46	...	— 3.61	...	— 3.26	...	— 3.41	...	— 2.17	...	— 2.30	...	— 1.49	...	— 2.54
...	—19.10	...	—20.00	...	—20.41	...	—15.79	...	—18.76	...	—20.62	...	—18.89	...	—11.72

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

of different groups, are classified by percentage amounts of difference, plus and minus, it is found that when they are high (low), ratios of total expense to earning assets for the same institutions, relative to the corresponding averages, are high (low). To this rule there are certain exceptions for the detailed classes, but none for "All Banks" (Table 7, columns 2, 4, 12, and 20).

3. The greater (smaller) the ratios of loans and discounts to earning assets, the greater (smaller) are the ratios of total expense to earning assets. To this generalization there are exceptions, but these do not negative the rule when applied to the

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL

Independent Variable: Loans and Discounts to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Loans and Discounts to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	1 434	2	3 430	4	5 382	6	7 48	8	9 52	10 ....
		Independent Variable: Av.	...	+16.34	...	+16.05	...	+16.81	..	+10.00	..	+10.00
		Dependent Variable: Av.	...	+ 1.43	...	+ 1.60	...	+ 1.54	..	+ 2.08	..	+ 2.69
	40.00 and over	+50.00	5	—33.00	10	+ 3.00	10	+ 3.00	..	....	..	....
	20.00–40.00	+30.00	138	+ 4.13	128	+ 1.48	125	+ 2.52	3	—41.66	5	+ 3.00
	Under 20.00	+10.00	291	+ 0.74	292	+ 1.61	247	+ 0.99	45	+ 5.00	47	+ 2.66
Below the Average	Under 20.00	—10.00	214	— 0.23	220	— 0.45	198	— 0.05	22	— 4.09	26	— 5.38
	20.00–40.00	—30.00	94	— 5.21	95	— 5.63	84	— 6.07	11	— 2.27	10	— 4.00
	40.00 and over	—50.00	41	— 4.76	38	— 4.21	38	— 4.21	..	....	..	....
	Total	Number of Bank-Years	349	....	353	....	320	....	33	....	36	....
		Dependent Variable: Av.	...	— 2.11	...	— 2.25	...	— 2.13	..	— 3.48	..	— 5.00
		Independent Variable: Av.	...	—19.18	...	—18.48	...	—18.97	..	—13.79	..	—12.78

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

non-adjacent groups indicating, for loans and discounts ratios, positive and negative differences.

Third: High (low) ratios of loans and discounts to earning assets normally have a moderate tendency to give high (low) ratios of net earnings to earning assets. (See the summaries in Table 8 (pp. 44–45) and the frequency surface in the Appendix, p. 418, which illustrates the distribution of the paired variables for one of the bases of classification.)

1. For banks having high (low) ratios of loans and discounts to earning assets—the basis of placing the ratios being

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MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927 COMBINED

Dependent Variable: Total Expense to Earning Assets

Various Yearly Averages)

in Ratios: Total Expense to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
431	....	183	....	122	....	126	....	429	....	243	....	108	....	78	....
...	+16.23	...	+17.95	...	+18.85	...	+11.19	...	+16.09	...	+19.20	...	+13.61	...	+ 9.87
...	+ 2.08	...	+ 2.70	...	+ 1.39	...	+ 1.83	...	+ 2.90	...	+ 2.98	...	+ 3.33	...	+ 2.05
12	+ 2.50	4	+22.50	8	— 7.50	...	....	14	— 6.43	12	— 0.83	...	....	2	—40.00
127	+ 2.87	68	+ 5.00	42	+ 2.86	17	— 5.59	123	+ 5.65	96	+ 5.94	25	+ 5.40	2	— 5.00
292	+ 1.71	111	+ 0.59	72	+ 1.53	109	+ 2.98	292	+ 2.19	135	+ 1.22	83	+ 2.71	74	+ 3.38
220	— 1.36	95	— 1.32	63	+ 0.87	62	— 3.71	224	— 1.74	128	— 2.19	46	— 0.44	50	— 1.80
92	— 5.65	45	— 8.78	28	— 5.36	19	+ 1.32	93	— 6.94	60	— 6.33	22	—11.36	11	— 1.36
40	— 5.50	21	— 0.24	16	—11.25	3	—11.67	37	— 5.54	30	— 5.00	7	— 7.86	...	....
352	....	161	....	107	....	84	....	354	....	218	....	75	....	61	....
...	— 2.95	...	— 3.26	...	— 2.57	...	— 2.86	...	— 3.50	...	— 3.72	...	— 4.33	...	— 1.72
...	—18.81	...	—19.91	...	—20.05	...	—15.12	...	—18.50	...	—20.41	...	—18.46	...	—11.72

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

averages for all banks, for those by class, by size, and by location—their ratios of net earnings to earning assets, as determined by averages secured in the corresponding manner, are high (low). To this generalization, for ratios which are high, there are exceptions in columns 8, 10, and 24; for those which are low, in columns 8 and 10. Observe that columns 8 and 10, respectively, refer to state banks, and to banks with branches.

2. When loans and discounts ratios are classified by percentage amounts of difference, plus and minus, it is less generally true that they give high (low) ratios of net earnings to earning

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL

Independent Variable: Loans and Discounts to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Loans and Discounts to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
			1	2	3	4	5	6	7	8	9	10
Above the Average	Total	Number of Bank-Years	434	....	430	....	382	....	48	....	52	....
		Independent Variable: Av.	...	+16.34	...	+16.05	...	+16.81	..	+10.00	..	+10.00
		Dependent Variable: Av.	...	+ 0.28	...	+ 0.98	...	+ 1.96	..	— 6.68	..	— 3.46
	40.00 and over	+50.00	5	+13.00	10	+ 7.00	10	+ 7.00	..	....	..	....
	20.00–40.00	+30.00	138	+ 3.55	128	+ 4.69	125	+ 4.52	3	+11.67	5	—13.00
	Under 20.00	+10.00	291	— 1.49	292	— 0.86	247	+ 0.47	45	— 8.11	47	— 2.40
Below the Average	Under 20.00	—10.00	214	— 4.72	220	— 6.18	198	— 7.83	22	+ 8.64	26	— 5.38
	20.00–40.00	—30.00	94	— 3.51	95	— 2.16	84	— 3.69	11	+ 9.55	10	+14.00
	40.00 and over	—50.00	41	— 9.15	38	— 9.47	38	— 9.47	..	....	..	....
	Total	Number of Bank-Years	349	....	353	....	320	....	33	....	36	....
		Dependent Variable: Av.	...	— 4.91	...	— 5.45	...	— 6.94	..	+ 8.94	..	± 0.00
		Independent Variable: Av.	...	—19.18	...	—18.48	...	—18.97	..	—13.79	..	—12.78

* City Sizes	Population (1920)
I and II.................	Under 2,500
III and IV.............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

assets. Lack of agreement is in some cases due presumably to paucity of data, in other instances to peculiarities in bank operation, full account of which is not taken by treating the institutions in broad classes.[1]

3. The higher (lower) the ratios of loans and discounts, the higher (lower) tend to be the ratios of net earnings to earning

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[1] Failure to classify the banks by location and by size, or by size and class, or by location and class may account for the correlations in some cases being negative—contrary to the prevailing relationship.

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MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927 COMBINED

Dependent Variable: Net Earnings to Earning Assets

Various Yearly Averages)

in Ratios: Net Earnings to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
431	....	183	....	122	....	126	....	429	....	243	....	108	....	78	....
...	+16.23	...	+17.95	...	+18.85	...	+11.19	...	+16.09	...	+19.20	...	+13.61	...	+ 9.87
...	+ 1.36	...	+ 1.12	...	+ 2.89	...	+ 1.19	...	+ 0.43	...	+ 1.26	...	— 2.68	...	+ 2.18
12	— 2.50	4	— 2.50	8	— 2.50	...	....	14	+13.57	12	+14.17	...	....	2	— 2.50
127	+ 4.21	68	+ 5.74	42	— 0.71	17	+10.29	123	+ 3.21	96	+ 3.33	25	+ 3.80	2	+ 2.50
292	+ 0.27	111	— 1.58	72	+ 3.89	109	— 0.23	292	— 1.37	135	— 1.37	83	— 4.64	74	+ 2.30
220	— 4.86	95	— 4.89	63	— 7.70	62	— 1.94	224	— 4.60	128	— 2.73	46	— 7.39	50	— 6.80
92	— 5.98	45	— 5.00	28	— 2.50	19	—13.42	93	— 3.39	60	—10.17	22	+12.73	11	+ 1.36
40	—12.50	21	—10.71	16	— 1.87	3	+ 8.33	37	—10.41	30	—14.00	7	+ 5.00	...	....
352	....	161	....	107	....	84	....	354	....	218	....	75	....	61	....
...	— 6.02	...	— 5.68	...	— 7.99	...	— 4.17	...	— 4.89	...	— 6.33	...	— 0.33	...	— 2.54
...	—18.81	...	—19.91	...	—20.05	...	—15.12	...	—18.50	...	—20.41	...	—18.46	...	—11.72

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

assets. This is the general rule for the "All Bank" classes; it is less true for the separate categories.

The summaries just presented express as general tendencies the functional relations between variable ratios of loans and discounts and variable ratios of gross earnings, of total expense, and of net earnings for California member banks. Tables 6 to 8, inclusive, give numerically the nature and degree of such association, while Table 5, together with the text statement, serves to illustrate and explain the way in which they are determined. From the evidence as there presented, the conclusion is inescapable that earnings and expenses for these banks, as for national banks by cities, are functions of, that is, either directly or indirectly depend upon, the composition of the earning assets.

National banks, by cities, relative to their own averages, tend to have high (low) gross earnings, total expense, and net earnings when they have high (low) loans and discounts. Moreover, when they increase (decrease) the proportion of their earning assets comprehended by loans and discounts, they tend to increase (decrease) their ratios of gross earnings, of total expense, and of net earnings relative to their earning assets. Member banks in California, relative to their averages as a whole or as classes, which have high (low) ratios of loans and discounts to earning assets, tend to have high (low) ratios of gross earnings. Moreover, but with less complete agreement, they tend to have high (low) ratios of total expense and of net earnings.

For banks arbitrarily to increase their earnings is impossible. Similarly, for them to decrease their expenses to such an extent as to interfere with efficiency is short-sighted. Both earnings and expenses tend to be normal for place, time, and condition. But at a given time and place, both vary from institution to institution, partly, at least, because of differences in policies attributable to the intensity of competition, and partly because of differences in administrative skill. For national banks, it is these variations, relative to type, and the changes from year to year which are found to be correlated positively with variations of and changes in the composition of the earning assets. For member banks in California, it is the variations from bank to bank, measured against the averages for the whole number and for those of distinctive groups, which have been found to vary with the proportion of the earning assets comprehended by loans and discounts. Both earnings and expenses vary. Moreover, they change. This, bank management well knows. Within limits, these deviations and changes are subject to administrative control. The evidence points to their being increased or to their being relatively high when ratios of loans and discounts to earning assets are increased or when they are relatively high. With equal certainty, it indicates that they decrease or that they are relatively low when ratios of loans and discounts to earning assets decrease or when they are relatively low. Collective experience shows these conditions to obtain. Here then is a fact which for bank management may be significant—a fact derived not from a single situation, which may be unique, but from the run of experience.

But factors of bank operation, other than the proportion of earning assets which loans and discounts constitute, help to determine the earnings and the expenses. A given fact in the business and economic world is the result of a multitude of circumstances, to take account of which simultaneously is both theoretically and practically impossible. To consider a given result as following from a single condition (cause) is in social affairs ridiculous. To suppose other things to be equal is not enough: they are not equal. This is strikingly the case in the data under review, in which, for instance, earnings, gross and net, are found to be positively correlated not only with loans and discounts but also with ratios of demand deposits to total deposits and to earning assets. Moreover, gross earnings and expenses, despite the varying conditions upon which they depend, are themselves positively correlated. How closely and with what consequences, so far as net earnings are concerned, are discussed later.

Knowing that ratios of gross earnings, of total expense, and of net earnings are positively correlated with ratios of demand deposits to earning assets and to total deposits,[1] and, as they have been shown to be, with ratios of loans and discounts, it will be of interest to observe (1) the functional relation between deposit and loan ratios, and (2) the relation of differences from type and of year-to-year change in both, treated simultaneously, with earnings and with expenses.

1. When loans and discounts ratios are relatively high (low), ratios of demand deposits to earning assets and of demand deposits to total deposits tend to be high (low). These relations hold for national banks by cities for the country generally, and for those in the Twelfth District, as well as for California member banks.[2]

2. When, from year to year, ratios of loans and discounts increase (decrease), ratios of demand deposits to earning assets

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[1] See pp. 148–150.

[2] Differences are expressed as percentage amounts from the respective city averages. For California banks, the differences are percentage amounts from the averages for the state as a whole, and from the groups of banks specified in Table 6, for instance. The changes are the percentage amounts from year to year for the respective cities.

and to total deposits tend to increase (decrease). That is, for both groups of banks and for measurements of difference and of change, the two series are positively associated. Accordingly, it is of interest to correlate percentage differences from type and year-to-year percentage changes for earnings and expenses with similar measures for loans and discounts and demand deposits, differences (by position), and changes (by direction) in the latter two series being taken account of simultaneously. This is done in Table 9 for national banks by cities, and in Table 10 (p. 50) for California member banks. The tables merit study. Because of lack of space, the variations of ratios of net earnings only are summarized below.

a) Net earnings ratios are *highest* when ratios of loans and discounts to earning assets, and of demand deposits to either earning assets or to total deposits are both relatively high. This condition holds for national banks by cities (Table 9) and for California member banks (Table 10).

b) Net earnings ratios are *lowest* when ratios of loans and discounts to earning assets and of demand deposits to either earning assets or to total deposits are both relatively low. This condition holds for national banks by cities (Table 9) and for California member banks (Table 10).

Stated in another way, Tables 9 and 10 indicate that

a) Conditions favorable to *highest* net earnings ratios are for banks, relative to their own standards (national banks by cities) and relative to those for groups (California members), to have *high* loans and discounts and *high* demand deposits ratios at the same time.

b) Conditions favorable to *lowest* net earnings ratios are for banks, relative to their own standards (national banks by cities) and relative to those for groups (California members), to have *low* loans and discounts and *low* demand deposits ratios at the same time.

Moreover,

a) There are more high net earnings when loans and discounts and demand deposits ratios are both high than there are when they are both low, or when one is high and the other is low.

b) Net earnings ratios are most commonly high when ratios of gross earnings, of total expense, of loans and discounts, and of demand deposits are simultaneously high.

TABLE 9

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to City Levels		Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District			
		Number of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Number of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
Loans and Discounts to Earning Assets	Demand Deposits to Earning Assets		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
Above	Average..........	190	+3.71	+3.35	+3.88	26	+4.67	+3.22	+9.06
	Above............	104	+5.00	+4.29	+6.04	16	+5.02	+3.10	+10.89
	Below............	86	+2.15	+2.23	+1.27	10	+4.11	+3.41	+ 6.14
Below	Average..........	194	−2.14	−1.96	−2.23	22	−2.37	−1.04	−6.37
	Above............	91	−1.07	−1.50	+0.38	11	−1.33	−0.15	− 4.72
	Below............	103	−3.08	−2.39	−4.50	11	−3.42	−1.93	− 8.03
Average	Average..........	384	+0.75	+0.67	+0.80	48	+1.44	+1.27	+1.99
	Above............	195	+2.17	+1.59	+3.40	27	+2.43	+1.78	+ 4.53
	Below............	189	−0.70	−0.29	−1.88	21	+0.17	+0.61	− 1.28
Loans and Discounts to Earning Assets	Demand Deposits to Total Deposits	......	......	......	......	......	......	......	......
Above	Average..........	190	+3.70	+3.35	+3.88	26	+4.67	+3.22	+9.06
	Above............	106	+4.99	+3.64	+8.48	19	+5.80	+3.88	+11.63
	Below............	84	+2.09	+2.98	−1.92	7	+1.61	+1.44	+ 2.08
Below	Average..........	194	−2.14	−1.96	−2.22	22	−2.37	−1.04	−6.37
	Above............	91	−1.41	−2.36	+1.50	7	−2.59	−2.10	− 4.52
	Below............	103	−2.79	−1.61	−5.50	15	−2.27	−0.55	− 7.23
Average	Average..........	384	+0.75	+0.67	+0.80	48	+1.44	+1.27	+1.99
	Above............	197	+2.04	+0.87	+5.26	26	+3.54	+2.27	+ 7.28
	Below............	187	−0.60	+0.45	−3.89	22	−1.04	+0.82	− 4.27

TABLE 10

Correlation of Yearly Percentage Differences for Ratios in Paired Series for All Member Banks in California, 1925–1927

(Percentage Differences from Respective Yearly Averages of the Respective Volume Groups)*

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to Volume-Group Levels		Number of Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
Loans and Discounts to Earning Assets	Demand Deposits to Earning Assets		G.E./E.A.	T.E./E.A.	N.E./E.A.
Above	Average	325	+3.54	+2.09	+3.51
	Above	188	+6.60	+3.83	+ 9.74
	Below	137	—0.66	—0.29	— 5.18
Below	Average	284	—2.43	—4.75	—3.73
	Above	102	+1.47	—1.86	+ 3.04
	Below	182	—4.62	—6.37	— 7.53
Average	Average	609	+0.76	—1.10	+0.13
	Above	290	+4.79	+2.59	+ 7.38
	Below	319	—2.92	—3.76	— 6.52
Loans and Discounts to Earning Assets	Demand Deposits to Total Deposits	....	....	....	....
Above	Average	325	+3.54	+2.09	+3.45
	Above	186	+3.44	—1.61	+11.99
	Below	139	+3.67	+7.05	— 7.99
Below	Average	284	—2.43	—4.75	—3.73
	Above	102	±0.00	—5.39	+ 7.06
	Below	182	—3.79	—4.40	— 9.78
Average	Average	609	+0.76	—1.10	+0.13
	Above	288	+2.22	—2.95	+10.24
	Below	321	—0.57	+0.57	— 9.00

* For groups, see p. 374.

If past experience constitutes a safe basis for future policy, bank management should strive for

a) Relatively high ratios of loans and discounts to earning assets, and for

b) Relatively high ratios of demand deposits to earning assets and to total deposits.

These conditions normally give relatively high gross earnings and high expenses, the end-results from which are relatively high net earnings to earning assets.

But what are relatively high (low) ratios of loans and discounts and of demand deposits? For the country as a whole both range from "Less than 60" to "90 and Over"; for member banks in California the loan ratios range from "Less than 45" to "85 and Over," and those of demand deposits from "Less than 45" to "95 and Over." Inasmuch as the period of time for which data for national banks are available exceeds that for the California members, the variations in ratios of net earnings to earning assets, associated with variable ratios of loans and discounts and of demand deposits, for national banks alone are considered.

For the years 1922–1927, combined, national banks in the sixty-four cities earned on the average $1.77 net on each $100 of earning assets. For those having different proportions of their earning assets in loans and of their total deposits in demand items, the earnings are as given in Table 11. Reference to the detail in this table will be made by line and column numbers.

TABLE 11

Average Ratios of Net Earnings to Earning Assets for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities Associated with Variable Ratios of Loans and Discounts to Earning Assets and of Demand Deposits to Total Deposits, 1922–1927

Ratios: Loans and Discounts to Earning Assets	Line No.	Ratios: Demand Deposits to Total Deposits								
		Total	Under 60.00	60.00 – 70.00	70.00 – 80.00	80.00 – 90.00	Under 60.00	Under 70.00	Under 80.00	Under 90.00
Average	1	1.77	1.54	1.81	1.82	1.91	.....	.....	.....	.....
		1	2	3	4	5	6	7	8	9
Under 60.00....	2	1.71	1.44	1.87	2.27	1.64	1.44	1.54	1.72	1.71
60.00–70.00.....	3	1.74	1.56	1.84	1.78	1.89	1.56	1.68	1.70	1.74
70.00–80.00.....	4	1.80	1.60	1.79	1.81	1.93	1.60	1.71	1.75	1.80
80.00–90.00.....	5	1.75	1.54	1.81	1.74	1.97	1.54	1.67	1.69	1.75

Ratios: Loans and Discounts to Earning Assets	Line No.	Under 60.00	Under 70.00	Under 80.00	Under 90.00	Under 60.00	60.00 – 70.00	70.00 – 80.00	80.00 – 90.00
		10	11	12	13	14	15	16	17
Under 60.00....	6	1.44	1.54	1.72	1.71	1.44	1.87	2.27	1.64
Under 70.00....	7	1.51	1.63	1.71	1.73	1.51	1.85	1.93	1.83
Under 80.00....	8	1.54	1.67	1.73	1.77	1.54	1.81	1.85	1.90
Under 90.00....	9	1.54	1.67	1.72	1.77	1.54	1.81	1.82	1.92

Observe the section defined by lines and columns 2 to 5:

a) For banks with given ratios of loans and discounts but with variable ratios of demand deposits, net earnings ratios generally but not consistently increase with larger demand deposit ratios. (Compare the amounts in the lines.)

b) For banks with given ratios of demand deposits but with variable ratios of loans and discounts, net earnings ratios generally, but less consistently than under (*a*) above, increase with larger loans and discounts ratios. (Compare the amounts in the columns.)

c) For banks with successively higher ratios of both loans and discounts and demand deposits, ratios of net earnings generally but not consistently increase. (Compare the amounts diagonally—line 2, column 2; line 3, column 3; and so on.)

Observe the section of Table 11 defined by lines 6 to 9 and by columns 10 to 13.

a) For banks with given ratios of loans and discounts but cumulatively with successively larger ratios of demand deposits, net earnings ratios increase. (Compare the amounts in the lines.)

b) For banks with given ratios of demand deposits to total deposits but cumulatively with successively larger ratios of loans and discounts, the net earnings ratios increase, but with less consistency than in (*a*) above. (Compare the amounts in the columns.)

c) For banks with successively larger ratios of both loans and discounts and of demand deposits—the results being cumulatively treated—ratios of net earnings consistently increase. (Compare the amounts diagonally—line 6, column 10; line 7, column 11; and so on.)

Now locate the section of Table 11 defined by lines 2 and 5 and by columns 6 to 9.

a) For banks with given ratios of loans and discounts to earning assets, but cumulatively with successively larger ratios of demand deposits, net earnings ratios with a single exception consistently increase. (Compare the amounts in the lines.)

b) For banks with given amounts, cumulated, of ratios of demand deposits to total deposits and with successively larger amounts of loans and discounts to earning assets, net earnings ratios tend neither consistently to increase nor to decrease. (Compare the amounts in the columns.)

c) For banks with successively higher ratios of demand deposits to total deposits and of loans and discounts to earning assets—the former being cumulatively treated—the higher are the net earnings to earning assets. (Compare the amounts in the diagonals—line 2, column 6; line 3, column 7; and so on.)

See the section of Table 11 defined by lines 6 to 9 and columns 14 to 17.

a) For banks with given ratios of loans and discounts—cumulatively treated—and with successively larger ratios of demand deposits to total deposits, net earnings ratios, with two exceptions, increase. (Compare the amounts in the lines.)

b) For banks with given ratios of demand deposits, and having cumulatively higher ratios of loans and discounts to earning assets, net earnings ratios generally but less consistently than in (*a*) above increase. (Compare the amounts in the columns.)

c) For banks with successively higher ratios of both loans and discounts and demand deposits—the former being cumulatively treated—the larger are the ratios of net earnings to earning assets. (Compare the amounts in the diagonals defined by line 6, column 14; line 7, column 15; and so on.)

From the several comparisons just specified, it is concluded that the size of net earnings ratios is influenced more by variations in ratios of demand deposits than by those in ratios of loans and discounts. It is the rule, when either or both of these ratios are high (low), for net earnings ratios to be high (low). The certainty of the relation, however, is greater when ratios of both loans and discounts and of demand deposits are varying together, and the amounts of the variations are treated cumulatively—that is, when the body of experience is most fully considered.

Not only are net earnings ratios of banks dependent upon the relative proportions of earning assets represented by loans and discounts and of total deposits comprehended by the demand items, but they are also functionally related to the changes in these proportions. The relations with loans and discounts alone have already been stated.[1] If, as in Table 12 (p. 54), account is taken simultaneously of changes in both factors, then, for national banks by cities, it is found (1) that when they are both increasing, the decrease in net earnings is less than when they are both decreasing; (2) that when loans and discounts are increasing and demand deposits to total deposits are decreasing, net earnings decrease; and (3) that when loans and discounts are decreasing and demand deposits are increasing, net earnings increase. Some of these relations hold for banks in cities of the Twelfth District as for those for all districts. Moreover, what appears to be general, when demand deposits are expressed as units of earning

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[1] See pp. 32, 34, and 42–46.

TABLE 12

Correlation of City Year-to-Year Percentage Changes of National Bank Ratios in Paired Series, 1922–1927

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Changes from Year to Year		Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District			
		Number of City Bank-Year Changes	Dependent Variables—Net Percentage Change			Number of City Bank-Year Changes	Dependent Variables—Net Percentage Change		
Loans and Discounts to Earning Assets	Demand Deposits to Earning Assets		$\frac{\text{G.E.}}{\text{E.A.}}$	$\frac{\text{T.E.}}{\text{E.A.}}$	$\frac{\text{N.E.}}{\text{E.A.}}$		$\frac{\text{G.E.}}{\text{E.A.}}$	$\frac{\text{T.E.}}{\text{E.A.}}$	$\frac{\text{N.E.}}{\text{E.A.}}$
Increasing	Average..........	141	+1.00	+2.47	—1.30	17	—1.94	—1.09	—3.13
	Increasing	69	+2.95	+4.53	—0.95	6	—2.55	—1.60	—3.66
	Decreasing	72	—0.86	+0.49	—1.64	11	—1.61	—0.82	—2.84
Decreasing	Average..........	179	—4.10	—3.51	—1.47	23	—3.52	—2.23	—6.60
	Increasing	83	—0.24	—0.29	+4.35	9	—0.73	+1.58	—6.40
	Decreasing	96	—7.44	—6.30	—6.50	14	—5.32	—4.68	—6.73
Average	Average..........	320	—1.85	—0.88	—1.40	40	—2.85	—1.75	—5.13
	Increasing	152	+1.21	+1.90	+1.94	15	—1.46	+0.31	—5.31
	Decreasing	168	—4.62	—3.39	—4.42	25	—3.69	—2.98	—5.02
Loans and Discounts to Earning Assets	Demand Deposits to Total Deposits	......	......	......	......	......	......	......	......
Increasing	Average..........	141	+1.00	+2.47	—1.30	17	—1.94	—1.09	—3.13
	Increasing	43	+0.83	+1.99	—1.89	6	—7.25	—6.29	—8.17
	Decreasing	98	+1.08	+2.68	—1.04	11	+0.96	+1.75	—0.39
Decreasing	Average..........	179	—4.10	—3.51	—1.47	23	—3.52	—2.23	—6.60
	Increasing	62	—4.16	—5.15	+3.43	6	—2.69	—0.35	—8.26
	Decreasing	117	—4.07	—2.64	—4.07	17	—3.82	—2.90	—6.01
Average	Average..........	320	—1.85	—0.88	—1.40	40	—2.85	—1.75	—5.13
	Increasing	105	—2.11	—2.23	+1.25	12	—4.97	—3.32	—8.22
	Decreasing	215	—1.72	—0.21	—2.69	28	—1.94	—1.07	—3.80

assets, obtains when they are measured in terms of total deposits.

Table 12 merits further study, attention being directed, among other things, to the changes in net earnings relative to changes in gross earnings and in total expense, under conditions of increasing and of decreasing loans and discounts and demand deposits ratios. Space, however, forbids.

This chapter carries a mass of detail concerning the levels of and the changes in ratios of loans and discounts to earning assets, and respecting the manner in which these are related to similar levels of and changes in other ratios for the same banks. The method of treatment throughout is intended to isolate and to measure similarities and differences and to indicate quantitatively the causal or associated relations which common sense suggested or knowledge made reasonably certain. It was believed that an examination of the mass experience of banks in different parts of the country, of different types and sizes, and so on, would result in the discovery of tendencies; that these in the mass would be common; that, if found, they would be instructive —in a word, that they would constitute standards or norms indicative of the manner in which consciously or unconsciously banking effort "works out." As to whether this search is fruitful, and as to whether the material presented is worth while, the writer is content to accept the judgment of others. He respectfully requests, however, that before a decision is rendered, the "whole case" be fully considered.

CHAPTER IV

RATIOS OF TOTAL DEPOSITS TO EARNING ASSETS

Total deposits of the individual banks or groups of banks herein considered represent the total of the demand and the time deposits. By the former are meant those payable within thirty days; by the latter, those payable after thirty days which include all savings accounts, certificates of deposits which are subject to not less than thirty days' notice before payment, and all postal savings deposits.

In order to make the total deposits for different banking institutions or groups comparable, they are invariably expressed as percentages of earning assets. The average figure, 86.32 for the years 1922 to 1927, combined, for the national banks in Central Reserve, Reserve, and Other Reserve cities, means that total deposits are 86.32 per cent of the earning assets. Both the earning assets and the total deposits for each year, for the national banks in the sixty-four cities, are the amounts reported on the June call date in each year. For the individual member banks in California, they are averages of the amounts reported on all call dates in each year.

The data relating to total deposits for cities cover the years 1922–1927, and those for separate institutions, the years 1925–1927. How do the ratios compare as to size at a given time; as to change from year to year; as to levels for different bank types, sizes, and locations? Comparisons are of practical interest inasmuch as, in general, it appears that the higher the ratio the less effectively and the lower the ratio the more effectively are funds employed. Economic utilization obviously has a bearing on banks' earnings and expenses, a topic fully discussed later.

Average ratios of total deposits to earning assets by years for banks, differing as to class and location, are as follows:

Classes of Banks	Ratios: Total Deposits to Earning assets	
	1922–1927	1925–1927
National Banks: 64 cities	66.32	87.98
National Banks: 8 cities, Twelfth District	90.13	91.24
National Banks: San Francisco, Los Angeles, and Oakland	86.03	88.31
All Member Banks: California	.....	100.22

In the first two groups, the ratios for the years 1922–1927 are distributed as follows, broad classes only being distinguished:

RATIOS: TOTAL DEPOSITS TO EARNING ASSETS	PERCENTAGE OF CASES	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 80.00	29.95	6.25
80.00 to 90.00	32.81	41.67
90.00 to 100.00	25.26	39.58
100.00 and Over	11.98	12.50

This summary shows that city ratios for the country as a whole prevail in the lower and those for the Twelfth District in the upper brackets. Indeed, in each year the average ratio for the cities in the Twelfth District is higher than is that for all cities, and that for the three largest cities is lower than that for the eight cities in the Twelfth District. That is, in general, the ratios vary inversely with the sizes of cities.

For the years 1925–1927, combined, the average ratios for California member banks by types are as follows:

TYPES OF BANKS	RATIOS: TOTAL DEPOSITS TO EARNING ASSETS
Average	100.22
National Unit	100.24
State Unit	99.68
National Banks with Branches	97.63
State Banks with Branches	103.03

The national banks with branches have the lowest and the state banks with branches the highest average ratio. This condition, moreover, obtains for each of the years except 1927.

Differences in average ratios seem, however, to be more definitely related to the size than to the type of banking institution. If the entire membership in California, for the combined years, is classified by size—that is, by average amounts of earning assets—it is found that the larger the bank, the smaller the ratio, the differences between the small and the large—those with earning assets "Under $1,000,000" and with "$3,000,000 and Over"—being eight points and ranging, respectively, from 102 to 94 per cent. This relationship, moreover, obtains for each of the years, and for the combined years for each bank class. The ratios by size and type of bank are given immediately below.

Amount of Earning Assets (Average 1925–1927)	Ratios: Total Deposits to Earning Assets				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	100	100	100	98	103
Under $1,000,000	102	102	104	102	107
$1,000,000 to $3,000,000	101	100	106	105	107
$3,000,000 and Over	94	91	90	93	102

It was observed above, in relation to the ratios of total deposits to earning assets for national banks by cities, that the larger the city the smaller the ratio. This relationship also obtains for the member banks in California for the years separately or combined. Moreover, for the combined years it obtains for each of the classes of banks as is shown by the following summary:

Size of City (1920) in Which Located	Ratios: Total Deposits to Earning Assets				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	100	100	100	98	103
Under 2,500	102	102	109	102	107
2,500 to 15,000	101	100	95	104	105
15,000 and Over	97	96	95	96	102

It is probably true, however, that the variation by size of city of location is dependent in part upon the size of the institution—since the larger institutions are generally found in the larger cities—and in part upon geographical location.

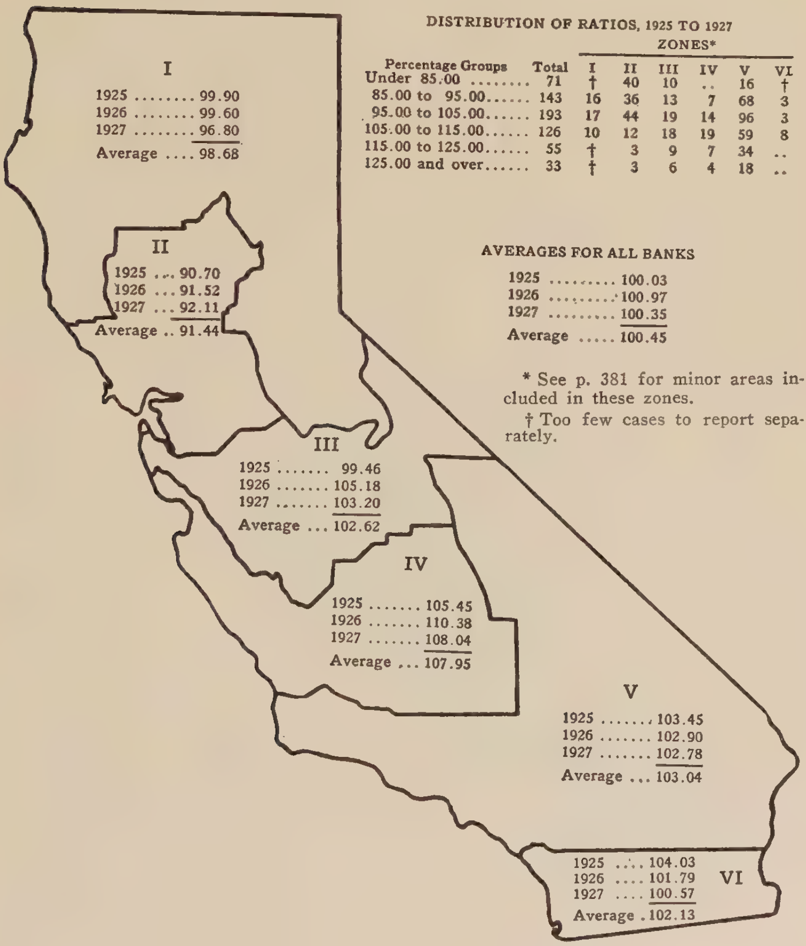
It is possible, by virtue of the area locations furnished by the Federal Reserve Bank of San Francisco, to distribute the banks throughout the state and to determine the average ratios for different areas. The results from distributing the banks in this manner are shown in Chart 8, from which it is apparent that geographically the ratios vary. They are lowest in Zone II, and highest in Zone IV. If wider area-units are selected, then more pronounced differences become evident.

Zones	Ratios: Total Deposits to Earning Assets			
	All Years	1925	1926	1927
I and II	93	93	94	93
III and IV	105	102	107	105
V and VI	103	103	103	103

CHART 8

Average Ratios of Total Deposits to Earning Assets, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 85.00	71	†	40	10	..	16	†
85.00 to 95.00	143	16	36	13	7	68	3
95.00 to 105.00	193	17	44	19	14	96	3
105.00 to 115.00	126	10	12	18	19	59	8
115.00 to 125.00	55	†	3	9	7	34	..
125.00 and over	33	†	3	6	4	18	..

AVERAGES FOR ALL BANKS

1925	100.03
1926	100.97
1927	100.35
Average	100.45

* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

By dividing the state into a northern—Zones I to IV—and a southern—Zones V and VI—part, the following average ratios are secured:

Zones	Ratios: Total Deposits to Earning Assets			
	All Years	1925	1926	1927
I to IV	98	97	99	98
V and VI	103	103	103	103

In general, therefore, the average ratios differ regionally, tending to be low in the north and high in the south, although this tendency is less clear when the smallest divisions—six zones—are compared.

The average amounts for these zones, however, summarize diverse conditions, this being evident from the tabular material on Chart 8, giving for each part of the state the number of ratios by class-size. Except for Zones IV and VI, every class-group is represented, the amounts ranging from "Less than 85" per cent to "125 and Over." The concentration of the ratios is somewhat different in the several areas, however, and this fact the averages in Chart 8 roughly indicate.

Geographical variation may be presented in another way, as on Chart 9, in which a system of shading and cross-hatching identifies zones having similar ratio-classes. What appear on Chart 8 to be homogeneous territories are found in Chart 9 to be made up of smaller regions having variable ratios. That is, the "level plateaus" of Chart 8 become terraced in Chart 9, the smaller areas again appearing, contrary to fact, to be homogeneous. It is obvious that full account of the diversity can be taken only by recording the ratios for individual institutions by position. An approach to this method of presentation is found in the tabular details on Chart 9, which give for each of twenty-two areas, as defined by the Federal Reserve Bank of San Francisco,[1] the average ratios of unit banks located in the several areas.

For Orange, Riverside, and Los Angeles counties, local variations by cities of different size are summarized on page 62, the ratios being averages for the years 1925 to 1927, combined, for national unit banks. These counties, included in Zone V in Chart 8, are found in Chart 9 to have banks falling in three ratio-class groups, each of which occurs in other parts of the state. This summary comes somewhat nearer to grips with reality

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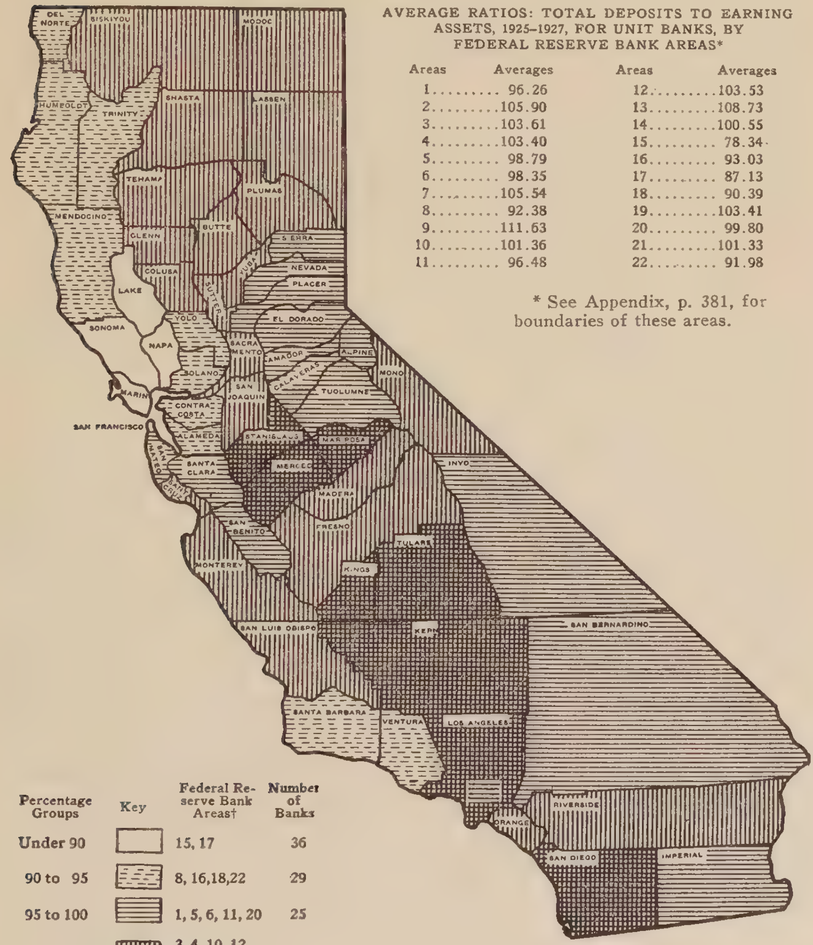
[1] See outline map, p. 381, for the boundaries of these areas.

CHART 9

Regions of California Having Unit Banks with Classified Average Ratios of Total Deposits to Earning Assets, 1925 to 1927



AVERAGE RATIOS: TOTAL DEPOSITS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	96.26	12	103.53
2	105.90	13	108.73
3	103.61	14	100.55
4	103.40	15	78.34
5	98.79	16	93.03
6	98.35	17	87.13
7	105.54	18	90.39
8	92.38	19	103.41
9	111.63	20	99.80
10	101.36	21	101.33
11	96.48	22	91.98

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas†	Number of Banks
Under 90	□	15, 17	36
90 to 95	⋯	8, 16, 18, 22	29
95 to 100	▤	1, 5, 6, 11, 20	25
100 to 105	▥	3, 4, 10, 12, 14, 19, 21	28
105 and over	▦	2, 7, 9, 13	66

† See p. 381.

—diversity from bank to bank—dealing as it does with ratio-classes in a selected part of the state.

Ratios: Total Deposits to Earning Assets	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	65	36	13	6*	4*	6*
Under 90.00	7	4	......†	......	......	......
90.00 to 100.00......	21	10	4	......	......	......
100.00 to 110.00.....	17	10	4	......	......	......
110.00 to 120.00.....	13	6	......†	......	......	......
120.00 and Over.....	7	6	......†	......	......	......
Riverside County ...	103.40	105.10	......†	95.80	......	......
Orange County	102.54	103.36	105.29	......†	......	......
Los Angeles County.	105.56‡	106.15	103.69	107.61	104.99	98.01
Average	103.99	105.41	104.03	100.64	104.99	98.01

* Too few cases to be distributed. † Too few banks to report separately.
‡ Does not include Los Angeles City.

With levels divergent, so far as city and individual bank ratios are concerned, changes occur during the periods under review. What were some of the more outstanding and common tendencies of such changes?

Over the whole period, 1922–1927, the ratios for national banks in the sixty-four cities, for those in the eight cities in the Twelfth District, and for those in San Francisco, Oakland, and Los Angeles increase. For the sixty-four cities, 58 per cent of the changes are upward, and 42 per cent downward; for the eight cities in the Twelfth District the corresponding changes are 60 and 40. Generally speaking, the year-to-year changes are of the same type but of different amounts in the several bodies of data. For member banks in California, there is a small increase between 1925 and 1926, and a small decrease between 1926 and 1927; in the first period 51 per cent of the bank ratios increasing, and in the second period 50 per cent decreasing.

The average changes and the relative number of increases for the city and the individual bank ratios, however, do not adequately represent the flux which was in process. If account is taken in both bodies of data of the ratio-levels, a different picture is secured. By using methods of analysis previously described,[1] patterns of change emerge.

For the city ratios for national banks, using the method of array,[2] the same ratios being averaged each year on the basis of an array in 1922, Chart 10 shows that the ratios which are relatively low increase most and that those which are relatively high increase least. Similar tendencies hold when the basis of array is 1923, and so for each of the other years. In Chart 10 it is seen that when the average change in the ratios is downward, as it is between 1922 and 1923, those which are relatively low in 1922—the year of array—fall less than those which are relatively high; when the average change is downward between 1924 and 1925, those which are relatively low rise and those which are relatively high fall. Between the other pairs of years the average change is upward, those ratios which are relatively low increasing more than do those which are relatively high.[1]

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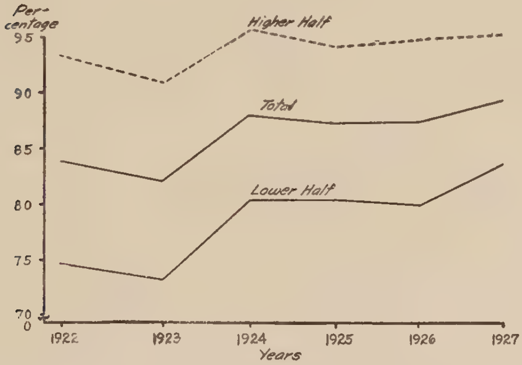
[1] See pp. 16–17, 19.

[2] See pp. 16–17.

CHART 10

Regression of Ratios of Total Deposits to Earning Assets for National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927

(Arrayed in 1922—same banks each year)



This is the same pattern of regression which is found for ratios of loans and discounts to earning assets, in which case, however, the general direction of change is downward.

A type of analysis similar to that just presented shows that the ratios of member banks in California, between 1925 and 1926 and 1926 and 1927, behave in much the same manner. This is true in general not only for those in the entire state but also for those in the regions as consolidated. Chart 11 illustrates this fact. While the average change for all banks is upward between 1925 and 1926 and downward between 1926 and 1927, the low ratios tend to rise and the high ones to fall, there being few exceptions, so far as groups are concerned, to this general rule. Moreover, it tends to be true that the lower the ratios the greater the rise, and the higher the ratios the greater the fall.

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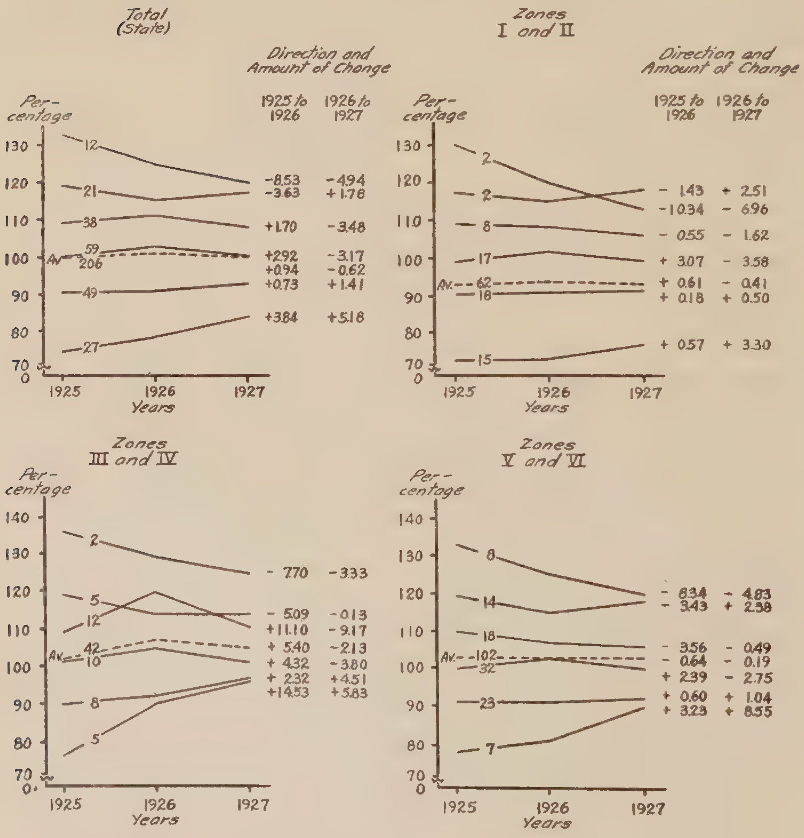
[1] Between 1925 and 1926, the types of change do not follow the conventional pattern.

If, rather than securing average ratios according to an array in a base year and comparing the results in subsequent years, the

CHART 11

Regression of Ratios of Total Deposits to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)



ratios are re-arrayed each year, averages are secured for the same banks as arrayed, and totals and averages are determined for all pairs of years for the different bodies of data, measures of the types and the amounts of change are obtained. This procedure gives averages for successive years over the whole period, and these may be compared in order to determine the pattern of change. What are the results from carrying out this process for the national banks in the sixty-four cities, for the national banks in the eight cities in the Twelfth District, and for the member banks by zones in California?

CHART 12

Regression of Ratios of Total Deposits to Earning Assets from Year to Year for All Pairs of Years, 1922 to 1927, for National Banks in Central Reserve, Reserve, and Other Reserve Cities

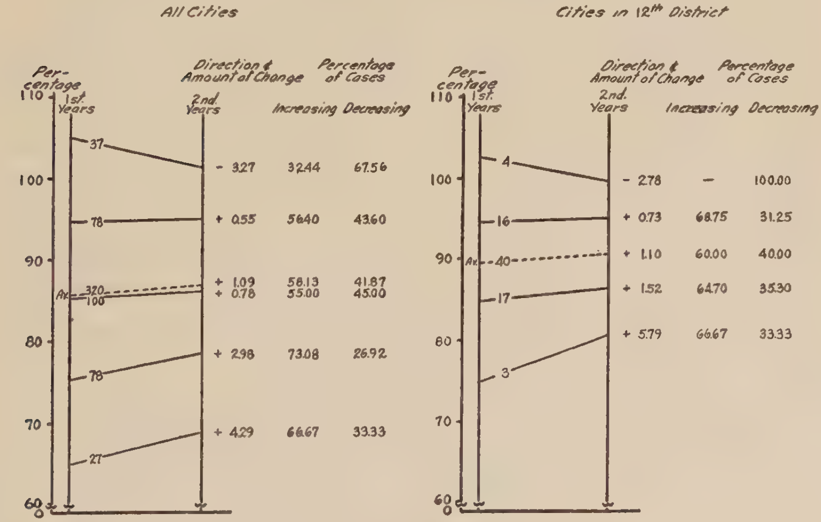


Chart 12 for national banks, by cities, illustrates the type and net average amounts of change occurring at successive levels in the arrayed ratios during the five pairs of years, 1922–1927. It also gives at successive levels the proportions of the ratios which increase or decrease. At positions which are low the preponderance of the ratios increase, and at those which are high the majority decrease. Moreover, the pattern of change is the same for all cities as for those in the Twelfth District, despite the fact that the levels for the two groups are different each year. Moreover, the nature of the changes agrees with that presented in Chart 10 in which, on the basis of an array in 1922, the same cities are averaged year by year throughout the entire period.

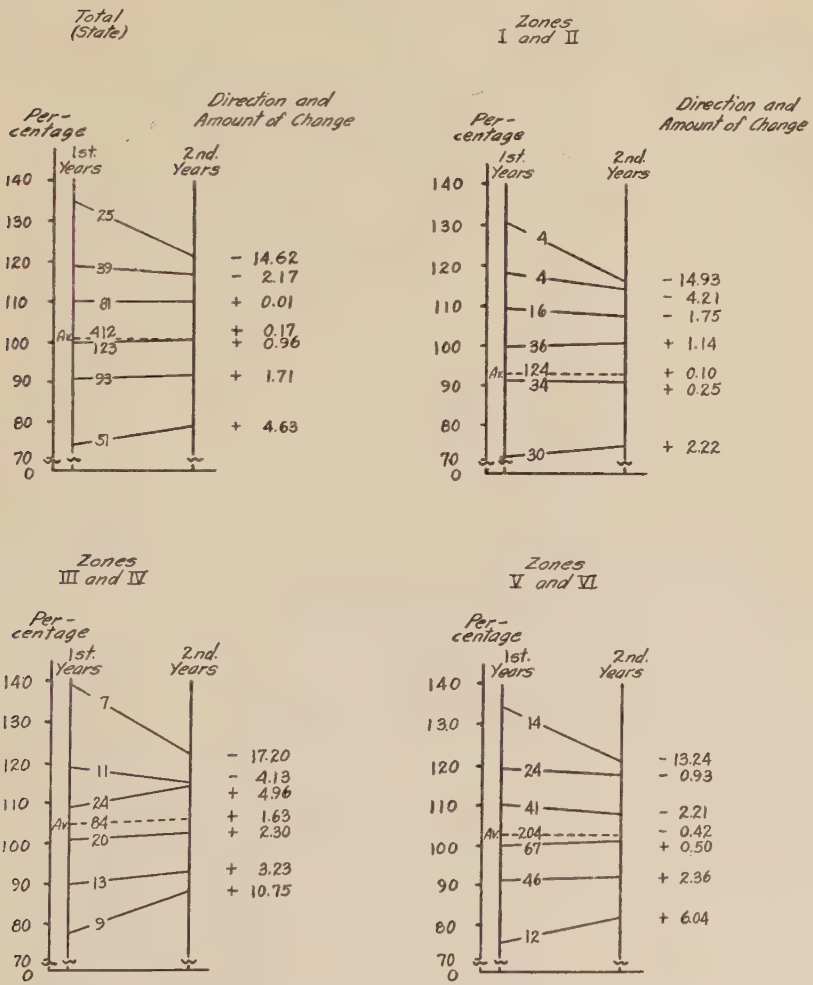
Average year-to-year changes describing a more or less regular pattern are presented for California member banks in Chart 11, the plan of treatment being to secure results for the same institutions in successive years. Since it is legitimate to compare two successive years in this manner, it is equally valid to contrast a series of consecutive years and from this wider experience to secure measurements of average behavior. This is done for the California member banks for the entire state and for separate parts, the results being graphically presented in Chart 13. The details for the two pairs of years, 1925–1926 and 1926–1927, which are averaged to secure the amounts for the upper left-hand section of Chart 13, are given in Table 13 (p. 68).

In Chart 13, the inclinations of the lines connecting the first and second years indicate the nature of the changes in the ratios. It is apparent that the lines, except at or near to the middle of the scales, are not horizontal. As the chart is drawn, those above the middle incline downward, thus indicating the fact that the ratios are lower in the second than in the first years. It is these which are relatively high in the first years of the pairs of years. Those below the middle incline upward, thus showing a tendency for the ratios to increase between the first and the second years. It is these which are relatively low in the first years of the pairs of years.

In the years under review relating to the member banks in California, stationary ratios for the individual institutions are practically unknown. The ratio for each bank depends upon the relation between its total deposits and its earning assets, and both these amounts fluctuate with conditions of industry and trade and the results of bank management. Other things being equal, industrial and trade growth are reflected in increasing total deposits and earning assets. Skilful management, however, tries as best it can within the bounds of prudence to reduce the relations between these amounts, in this manner securing a more profitable use of available funds. Such effort, however, being common to all banks and these same banks operating competitively not only in

CHART 13

Regression of Ratios of Total Deposits to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



close proximity but generally by reason of transmitted pressure, encounters obstacles. The results of this effort are shown in the regression patterns.

Banks, by virtue of local conditions making for low or high ratios, tend from year to year to retain their relative positions.

TABLE 13

Average Net Change Per Bank Per Year in Ratios of Total Deposits to Earning Assets for All Member Banks in California

Ratios: Total Deposits to Earning Assets (*Percentage Groups*)	All Pairs of Years				1925–1926				1926–1927			
	Number of Bank-Year Ratios			Second Years Greater (+) or Less Than (—) First Years	Number of Bank Ratios			1926 Greater (+) or Less Than (—) 1925	Number of Bank Ratios			1927 Greater (+) or Less Than (—) 1926
	Total	Increasing	Decreasing		Total	Increasing	Decreasing		Total	Increasing	Decreasing	
Total (Average).........	412	204	208	+ 0.17	206	101	105	+0.94	206	103	103	—0.62
Under 85.00..............	51	36	15	+ 4.63	27	19	8	+3.84	24	17	7	+ 5.50
85.00 to 95.00............	93	54	39	+ 1.71	49	26	23	+0.73	44	28	16	+ 2.79
95.00 to 105.00...........	123	65	58	+ 0.96	59	37	22	+2.92	64	28	36	— 0.80
105.00 to 115.00..........	81	31	50	+ 0.01	38	14	24	+1.70	43	17	26	— 1.53
115.00 to 125.00..........	39	13	26	— 2.17	21	4	17	—3.63	18	9	9	— 0.50
125.00 and over..........	25	5	20	—14.62	12	1	11	—8.53	13	4	9	—20.25

This much for different zones of California is illustrated in Chart 8. But from these levels, because of competitive pressure, changes occur from year to year, the net average results of which are that the ratios which are low tend to rise and those which are high tend to fall, this pattern, as shown in Table 13, occurring irrespective of the fact that the average ratios increase between 1925 and 1926 and decrease between 1926 and 1927. Moreover, the lower the average ratio the greater the average rise, and the higher the average ratio the greater the average fall. Positions of conspicuous advantage, as of disadvantage, appear to be insecure, both tending under competition to be equalized toward that which for time and place may be thought of as normal. To this general conclusion all of the evidence available unmistakably points.

It was observed earlier that the proportions of earning assets represented in total deposits have a bearing upon the earnings and the expenses of banks. If, from time to time, they are changing because of conscious effort, or are changed because of competitive pressure, then it is possible to determine the types of association, if not the causal relations, between such changes and those in other series of data, provided the results are paired for institutions or for groups of institutions. There are two ways in which association in paired series may be measured, first, relative to their respective levels, the amounts being expressed as percentage differences;[1] and second, as percentage changes from year to year. In this chapter, because of lack of space, only the first method is used. For national banks by cities, the percentage deviations are taken from the averages of the respective cities for the years 1922–1927, combined; for California member banks, the percentage differences are computed from the all-bank yearly averages, and from the yearly averages of various groups. The results are totaled and averaged to give a picture of what in the aggregate happened.

In brief, the problem now under discussion is as follows: What are the nature and the degree of relationship between percentage differences from type in ratios of total deposits to earning assets and percentage differences from type in ratios of gross earnings, of total expense, and of net earnings to earning assets? More specifically, the inquiry may be stated in this form: If ratios of total deposits are relatively high (low) are those of gross earnings, of total expense, and of net earnings high (low), or vice versa? Moreover, are the amounts of displacement in the correlated series directly or indirectly related? Then, too, is there anything in the experience of banks, as reflected by answers to these questions, which because of its universality, its definiteness, and certainty may be used as a basis for formulating bank policies, provided future action can legitimately be based upon past practice?

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[1] The reasons for expressing differences on a percentage basis are given on pp. 25–26.

For the national banks by cities, the average ratio of total deposits to earning assets for the years 1922–1927, combined, is 86.32. The sixty-four separate six-year averages for the individual cities which served as types in calculating the percentage deviations are distributed in the left-hand section and the ratios for the six different years in the right-hand part of the following summary:

DISTRIBUTION OF RATIOS OF TOTAL DEPOSITS TO EARNING ASSETS
(Sixty-four Central Reserve, Reserve, and Other Reserve Cities)

Six-Year Averages, 1922–1927		Yearly Ratios, 1922–1927	
Percentage Groups Total	Number 64	Percentage Groups Total	Number 384
Under 65.00	1	Under 65.00	11
65.00 to 70.00	2	65.00 to 70.00	16
70.00 to 75.00	5	70.00 to 75.00	37
75.00 to 80.00	11	75.00 to 80.00	51
80.00 to 85.00	11	80.00 to 85.00	59
85.00 to 90.00	10	85.00 to 90.00	67
90.00 to 95.00	9	90.00 to 95.00	56
95.00 to 100.00	10	95.00 to 100.00	41
100.00 to 105.00	4	100.00 to 105.00	28
105.00 and Over	1	105.00 and Over	18

The positions in these distributions of the ratios for a given city, say Los Angeles, can readily be located. The amounts are as follows:

Average 1922–1927	1922	1923	1924	1925	1926	1927
94.33	90.05	93.64	93.83	93.24	95.46	97.23

Similar distributions of the ratios of net earnings to earning assets for the banks in these cities are given below.

Distribution of Ratios of Net Earnings to Earning Assets
(Sixty-four Central Reserve, Reserve, and Other Reserve Cities)

Six-Year Averages, 1922–1927

Percentage Groups Total	Number 64
Under 1.00	1
1.00 to 1.25	6
1.25 to 1.50	7
1.50 to 1.75	16
1.75 to 2.00	19
2.00 to 2.25	9
2.25 to 2.50	4
2.50 to 2.75	2
2.75 and Over	

Yearly Ratios, 1922–1927

Percentage Groups Total	Number 384
Under 1.00	16
1.00 to 1.25	32
1.25 to 1.50	57
1.50 to 1.75	94
1.75 to 2.00	82
2.00 to 2.25	53
2.25 to 2.50	20
2.50 to 2.75	17
2.75 and Over	13

Los Angeles' position in these arrays is determined by the following amounts:

Average 1922–1927	1922	1923	1924	1925	1926	1927
1.57	1.98	1.64	1.79	1.35	1.52	1.39

The six-year averages in the respective distributions given above are the type-amounts against which the yearly ratios are computed as percentage deviations, these, for the combined years, being shown in Chart 14 (p. 72).

As presented above, the percentage differences in the two series are isolated. By a simple method, already described,[1] it is possible to interrelate them year by year, summarize the results, and secure averages showing (1) net percentage amounts and types of difference in ratios of net earnings for given percentage amounts of difference in ratios of total deposits, and (2) net percentage amounts and types of deviation in ratios of total deposits for given percentage amounts of deviation in ratios of net earnings. This is done in Table 14, which also contains the number and the distribution of the paired yearly percentage differences. From the alignment of the frequencies and from the summary amounts and signs in the columns at the right and at the bottom, it is found (1) that when ratios of total deposits to earning assets are high (low), ratios of net earnings are low (high); (2) that when ratios of net earnings are high (low), ratios of total deposits tend to be low (high); and (3) the greater the percentage

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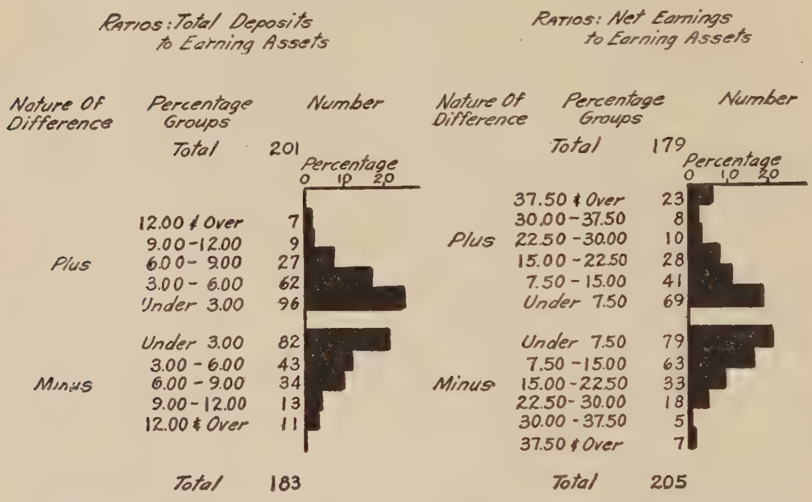
[1] *Supra*, pp. 27–29.

CHART 14

Frequencies of Percentage Differences from Types for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927



deviation in total deposits (net earnings) the greater the percentage deviation in net earnings (total deposits)—the signs of the deviation being generally, although not exclusively, opposite. The distribution of the frequencies shows the trend of relationships; the amounts in the summaries indicate their ("best") average measurements.

The locations of the paired percentage frequencies for the three California cities, included in the sixty-four to which the data apply, are superimposed on Table 14. It is apparent that the inverse correlation characterizing the entire group typifies this sample hardly less strikingly than it does the eight cities located in the Twelfth District, the correlation surface of which is given in Table 15 (p. 74). In this case, the inverse relation is clear despite the small number of instances. The compactness of the distributions indicates the ratios to be more uniform among the eight cities in the Twelfth District than among the sixty-four cities in all districts. Moreover, the inverse correlation for the California city ratios closely approximates that for all cities in the Twelfth District.

TABLE 14

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Net Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of City Bank-Years												Total		
		Above the Average						Below the Average						No. of City Bank-Years	Average Percentage Differences	
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over		Ratios: Total Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	12.00 and over	..	..	..	3	..	1	1	..	1	1	..	..	7	+14.95	—0.01
	9.00–12.00	..	..	1	..	3	1	1	..	2	..	1[sf]	..	9	+10.09	—2.48
	6.00– 9.00	2	1	1	1	..	3	6	4	5	1	1	2	27	+ 7.46	—4.60
	3.00– 6.00	..	2	..	2	10	8	17	13[o la]	9	1	..	..	62	+ 4.37	—2.48
	Under 3.00	5	1	2	5	10	19	21[la]	17	4	9	1	2	96	+ 1.42	—1.41
Below the Average	Under 3.00	7	1	..	7[o sf]	8[la]	12[o sf la]	18	17[la]	8	3	..	1	82	— 1.49	+1.92
	3.00– 6.00	4	2	4[la]	6	3	9[sf]	5[o]	5	2	..	1	2	43	— 4.38	+7.12
	6.00– 9.00	3[sf]	1	..	2	5	11	6	5	..	1	..	..	34	— 7.35	+6.38
	9.00–12.00	1	..	2	..	2	2	2	1	1	2	..	..	13	—10.25	+3.28
	12.00 and over	1	..	..	2[sf]	..	3	2	1	1	..	1	..	11	—14.41	+1.86
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+52.78	+33.14	+26.04	+17.50	+11.08	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			
	Ratios: Total Deposits to Earning Assets (Net)	—2.43	+0.13	—1.98	—4.90	+0.14	—1.36	+0.39	—0.01	+2.32	+0.79	—0.10	+1.10			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 15

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Net Earnings to Earning Assets in National Banks in Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Total Deposits to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)*							Total		
		Number of City Bank-Years								Average Percentage Differences	
		Above the Average				Below the Average					
Position	Percentage Groups	22.50 and Over	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 and Over	No. of City Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	6.00 and over	...	...	...	...	...	...	1[sf]	1	+10.28	—30.86
	3.00–6.00	...	...	...	2	2	5[ola]	...	9	+ 4.16	— 6.48
	Under 3.00	...	...	1	4	2[la]	2	1	10	+ 1.45	— 2.74
Below the Average	Under 3.00	1	2[osf]	1[la]	6[sfola]	3	1[la]	3	17	— 1.20	+ 2.32
	3.00–6.00	2[la]	1	...	3[sf]	2[o]	...	...	8	— 4.32	+10.12
	6.00 and over	1[sf]	2[sf]	...	...	...	...	...	3	—10.62	+30.52
Total	No. of City Bank-Years	4	5	2	15	9	8	5	48 / 48		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+41.86	+17.19	+11.40	+ 4.23	— 3.77	—11.90	—23.04			
	Ratios: Total Deposits to Earning Assets (Net)	—4.53	—6.06	—0.20	—0.38	—0.34	+3.07	+1.68			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

The net result, therefore, of interrelating the total deposit and the net earnings ratios is to discover generally that when the one (the other), relative to type, is high (low), the other (the one), relative to type, is low (high).

Net earnings are residual—they depend not only upon the size of ratios of total deposits to earning assets but, as has been seen, upon the proportion of earning assets comprehended by loans and discounts. Moreover, they depend upon the gross earnings and the expenses—ratios themselves dependent upon each other and upon other series. To assign the differences in ratios of total deposits alone as the occasion for those in ratios of net earnings is absurd. They grow out of a multitude of circumstances of which total deposit ratios are only one. Others

TABLE 16

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Differences in Ratios: Total Deposits to Earning Assets			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Average Percentage Differences Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
	Percentage Groups	Average Percentage		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.			G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
	1	2	3	4	5	6	7	8	9	10	11
Above the Average	Total (Av.)	+ 4.00	201	—0.39	+0.06	—2.17	+ 3.11	20	— 2.37	— 1.17	— 5.83
	12.00 and over	+14.95	7	+3.42	+5.04	—0.01	....	..	....	....	....
	9.00–12.00	+10.09	9	—1.94	—2.23	—2.48	....	..	....	....	....
	6.00–9.00	+ 7.46	27	+1.61	+3.49	—4.60	+10.28	1	—28.47	—27.45	—30.86
	3.00–6.00	+ 4.37	62	—0.49	+0.14	—2.48	+ 4.16	9	— 2.28	— 0.76	— 6.48
	Under 3.00	+ 1.42	96	—1.02	—1.10	—1.41	+ 1.45	10	+ 0.17	+ 1.09	— 2.74
Below the Average	Under 3.00	— 1.49	82	+1.28	+1.17	+1.92	— 1.20	17	+ 0.43	— 0.24	+ 2.32
	3.00–6.00	— 4.38	43	+4.36	+3.40	+7.12	— 4.32	8	+ 5.99	+ 4.97	+10.12
	6.00–9.00	— 7.35	34	+1.69	—0.20	+6.38	—10.62	3	+20.48	+16.16	+30.52
	9.00–12.00	—10.25	13	+2.89	+2.73	+3.28	....	..	....	....	....
	12.00 and over	—14.41	11	—1.75	—3.15	+1.86	....	..	....	....	....
	Total (Av.)	— 4.66	183	+2.01	+1.33	+4.07	— 3.10	28	+ 4.16	+ 3.01	+ 7.57

have been indicated, and still different ones are specified in material soon to be presented.

Hardly less clear than the inverse relation between ratios of total deposits and of net earnings is that between (1) ratios of total deposits and of gross earnings and (2) ratios of total deposits and of total expense. A summary of such relations for national banks by cities in all districts and in the Twelfth District is given in Table 16. This table provides two major sections and their details, the first part relating to banks the total deposit ratios of which are high ("Above the Average"), the second, to those which are low ("Below the Average"), the positions being those held by individual ratios each year against the average ratios for the six-year period, 1922–1927. Corresponding to these major sections and their details, the table gives the net average percentage differences in the ratios of gross earnings, of total expense, and of net earnings, these ratios being the dependent variables. Observe (1) that for total deposit ratios which on the average are high (low), the corresponding ratios in the other series, on the average, are low (high);[1] (2) that the higher (lower) the total deposit ratios the higher (lower) are the ratios in the other series, the types of deviation in the independent (total deposits) and in the dependent (gross earnings, total expense, and net earnings) variables, however, being generally but not exclusively opposite; and (3) that the results for cities in the Twelfth District substantially agree with those for the cities in all districts.

It seems unnecessary, for gross earnings and for total expense ratios, to present the frequency surfaces corresponding to those indicated in Tables 14 and 15 for ratios of net earnings.

The foregoing tables relating to series correlated with total deposits refer to national banks only, and to these by cities. The data are totals, comprising in each city widely varying numbers of banks—banks of different size and, obviously, with different trade and industrial clienteles. Because of these facts, so far as management is concerned, the relations discovered have limited practical significance. When, however, similar types of association in part are found to hold for individual institutions, then the cumulative evidence seems to provide a standard which is helpful in the determination of bank policy.

In what is said above, relative to the inverse correlation of gross earnings, of total expense, and of net earnings ratios with ratios of total deposits, chief emphasis is given to net earnings. Similar emphasis is accorded to these ratios in the matter immediately following, which pertains to the member banks in California. See, however, the frequency surfaces for member banks in this state, given in the Appendix,[2] according to which both gross earnings and total expense ratios are positively correlated with ratios of total deposits to earning assets.

For national banks by cities, it is found that when ratios of total deposits are high (low), ratios of net earnings are low

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[1] For the total expense ratio the sign is positive, but the amount is smaller than that corresponding to relatively low ratios of total deposits.

[2] Pages 419–426.

(high). Similar relationships are found between these ratios for member banks in California, despite the fact that the type ratios are differently derived in the two bodies of data and that, for California banks, as noted above, total expense and gross earnings ratios are positively correlated with those of total deposits. The net result of these positive correlations is negative correlation with ratios of net earnings. The arrays of the correlated variables for the California banks are given in Table 17 (p. 78), the summaries of which at the right show the net average percentage differences in net earnings ratios corresponding to given percentage differences in ratios of total deposits, and at the bottom the net average percentage differences in ratios of total deposits for given percentage differences in ratios of net earnings to earning assets. Observe (1) that when ratios of total deposits are high (low), ratios of net earnings tend generally but not markedly to be low (high); (2) that when ratios of net earnings are high (low), ratios of total deposits tend in a general way to be low (high); and (3) that the higher (lower) the one (the other), the lower (higher) the other (the one). This is the over-all experience of member banks, the percentage differences in the respective series referring to the yearly deviations from the averages of the banks by volume (earning assets) groups.

Up to this point, therefore, it is found to be the rule, for national banks by cities for the country as a whole and for individual members in California, that relatively low (high) net earnings ratios accompany, if they are not causally related to, high (low) ratios of total deposits—both ratios being measured in units of earning assets. In the two bodies of data, the results in general correspond. Similar correspondence is found for member banks in California when they are compared in different ways. In this connection, observe the comparative amounts and signs in Table 20 (pp. 84–85), according to which the banks are classified by type, by size of city of location, and by size of bank (average amounts of earning assets). It is here found to be the rule that (1) when ratios of total deposits are high (low), ratios of net earnings are low (high), and (2) the higher (lower) the former, the lower (higher) the latter.

As to the types of association between ratios of total deposits (net earnings) and of net earnings (total deposits), there is substantial agreement for national banks and for California member

TABLE 17

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from Respective Yearly Averages from the Respective Volume Groups)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	..	1	..	..	..	1	+50.00	—37.50
	40.00–50.00	..	..	..	..	..	..	..	1	..	..	..	2	3		
	30.00–40.00	4	1	3	..	1	..	1	..	..	2	4	1	17	+30.00	— 6.28
	20.00–30.00	2	..	2	1	3	6	..	1	4	2	3	6	30		
	10.00–20.00	13	5	3	14	8	7	13	13	14	10	5	25	130	+10.00	— 5.06
	Under 10.00	28	5	9	12	16	20	29	18	21	13	16	24	211		
Below the Average	Under 10.00	22	8	19	24	26	19	18	20	25	12	13	21	227	—10.00	+ 0.18
	10.00–20.00	18	7	2	4	7	12	5	9	7	9	8	13	101		
	20.00–30.00	10	1	4	4	4	2	4	3	2	1	..	6	41	—30.00	+ 8.94
	30.00–40.00	5	1	..	1	2	1	4	..	3	..	..	3	20		
	40.00–50.00	..	..	..	1	..	..	..	..	..	..	..	..	1	—50.00	+10.00
	50.00 and over	..	..	..	..	..	..	1	..	..	..	..	..	1		
Total	No. of Bank-Years	102	28	42	61	67	67	75	65	77	49	49	101	783 / 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Deposits to Earning Assets (Net)	—2.69		—0.44		—0.75		—0.29		+1.59		+2.67				

banks. For ratios of gross earnings and of total expense, however, the results do not agree, it being the rule among California members that high (low) ratios of gross earnings and of total expense are associated with high (low) ratios of total deposits. In this connection, observe the corresponding summary amounts in Tables 18 and 19, respectively (see pp. 80–81, 82–83), in contrast with those in Table 16.

It is difficult to account for this disparity. Toward an explanation, however, it should be remembered that neither gross earnings nor total expense ratios are dependent alone upon ratios of total deposits. Then, too, the method of calculating the deviations for California member banks has the effect of comparing with each other widely divergent ratios, these varying with the sizes of institutions, with their location, and their type. Accordingly, it is believed that the relationships shown in Tables 18 and 19 are of less significance than are those in Table 16. Had data for California banks been available, making it possible to calculate the differences for banks from their own type ratios rather than from those for all banks or for groups of banks, inverse relations, it is believed, would have been discovered. Such are those for national banks generally, for those in the Twelfth District, and for those of three cities—San Francisco, Oakland, and Los Angeles—in California.

Inasmuch as the method of measuring "high" and "low" ratios, in the case of the national bank data, is superior to that for data for California member banks, further analysis of the interrelations between series is made with this fact in mind.

Relatively high (low) investments and relatively high (low) time deposits are found with relatively high (low) total deposits —all amounts being measured relative to earning assets. Knowing that, for national banks, inverse correlations obtain between ratios of gross earnings, of total expense, and of net earnings and ratios of total deposits, it is of interest to determine the degree of such association when account is taken not only of total deposits but also of investments and time deposits. Table 21 (p. 86), is of significance in these respects. It shows that (1) when total deposits and investments are simultaneously low, net earnings ratios are highest; and (2) when they are simultaneously high, net earnings ratios are lowest—these conditions obtaining for national banks, by cities, in all districts, and for those in eight cities in the Twelfth

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL

Independent Variable: Total Deposits to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Total Deposits to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av..%	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
			1	2	3	4	5	6	7	8	9	10
Above the Average	Total	Number of Bank-Years	388	....	387	....	341	....	46	....	46	....
		Independent Variable: Av.	...	+11.96	...	+11.90	...	+12.45	..	+ 7.84	..	+ 7.61
		Dependent Variable: Av.	...	+ 5.57	...	+ 5.13	...	+ 5.20	..	+ 4.78	..	+ 5.22
	40.00 and over	+50.00	7	+16.43	7	+16.43	7	+16.43	..	....	..	....
	20.00–40.00	+30.00	60	+10.67	57	+10.26	56	+10.36	1	+ 5.00	1	+25.00
	Under 20.00	+10.00	321	+ 4.38	323	+ 4.01	278	+ 3.88	45	+ 4.78	45	+ 4.78
Below the Average	Under 20.00	—10.00	345	— 4.27	349	— 3.97	318	— 4.03	31	— 3.39	40	— 3.75
	20.00–40.00	—30.00	63	— 8.49	59	— 9.49	58	— 8.62	1	—25.00	3	—15.00
	40.00 and over	—50.00	3	—25.00	4	—21.25	1	—15.00	3	—35.00	..	....
	Total	Number of Bank-Years	411	....	412	....	377	....	35	....	43	....
		Dependent Variable: Av.	...	— 5.07	...	— 4.93	...	— 4.76	..	— 6.71	..	— 4.53
		Independent Variable: Av.	...	—11.35	...	—11.21	...	—11.29	..	—10.43	..	— 8.49

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

District. Moreover, it indicates that when investments alone are high (low), net earnings are low (high).

Table 21 is composed of two parts, in the lower of which net percentage differences from type for ratios of gross earnings, of total expense, and of net earnings are given for ratios of total deposits and of time deposits, both being simultaneously above or below their means. Observe that lowest net earnings accompany relatively high, and highest net earnings are found with relatively low ratios of total deposits and of time deposits—the former

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MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927 COMBINED

Dependent Variable: Gross Earnings to Earning Assets

Various Yearly Averages)

in Ratios: Gross Earnings to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
402	....	160	....	122	....	120	....	399	....	224	....	92	....	83	....
...	+11.42	...	+13.06	...	+10.41	...	+10.25	...	+11.64	...	+12.68	...	+10.54	...	+10.06
...	+ 4.45	...	+ 4.50	...	+ 5.00	...	+ 3.83	...	+ 5.80	...	+ 6.70	...	+ 4.02	...	+ 5.36
5	+11.00	4	+10.00	...	....	1	+15.00	4	+15.00	4	+15.00	...	....	...	....
58	+10.86	28	+11.07	15	+11.00	15	+10.33	49	+12.75	35	+11.86	10	+ 8.00	4	+32.50
339	+ 3.26	128	+ 2.89	107	+ 4.16	104	+ 2.79	346	+ 4.71	185	+ 5.54	82	+ 3.54	79	+ 3.99
330	— 3.97	169	— 3.70	89	— 5.00	72	— 3.33	335	— 3.66	212	— 3.49	84	— 3.81	39	— 4.23
65	— 8.23	25	— 3.40	20	— 7.50	20	—15.00	63	— 6.75	38	— 6.05	10	— 1.00	15	—12.33
2	—30.00	...	....	...	....	2	—30.00	2	—30.00	...	....	...	....	2	—30.00
397	....	194	....	109	....	94	....	400	....	250	....	94	....	56	....
...	— 4.80	...	— 3.66	...	— 5.46	...	— 6.38	...	— 4.27	...	— 3.88	...	— 3.51	...	— 7.32
...	—11.67	...	—10.93	...	—12.06	...	—12.76	...	—11.45	...	—11.00	...	—10.43	...	—15.18

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

measured in terms of earning assets and the latter in units of total deposits.

From the standpoint of net earnings, other things being equal,

High ratios of total deposits and of investments are to be avoided.
Low ratios of total deposits and of investments are to be sought.

Similarly,

High ratios of total deposits and of time deposits are to be avoided.
Low ratios of total deposits and of time deposits are to be sought.

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL
Independent Variable: Total Deposits to Earning Assets
(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Total Deposits to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	1 381	2	3 380	4	5 334	6	7 46	8	9 45	10 ....
		Independent Variable: Av.	...	+11.90	...	+11.84	...	+12.40	..	+ 7.84	..	+ 7.44
		Dependent Variable: Av.	...	+ 8.28	...	+ 7.89	...	+ 8.14	..	+ 6.09	..	+ 3.89
	40.00 and over	+50.00	7	+23.57	7	+26.43	7	+26.43	..	....	..	....
	20.00–40.00	+30.00	58	+15.86	55	+17.18	54	+17.41	1	+ 5.00	1	+15.00
	Under 20.00	+10.00	316	+ 6.55	318	+ 5.88	273	+ 5.84	45	+ 6.11	44	+ 3.64
Below the Average	Under 20.00	—10.00	338	— 6.42	342	— 5.96	311	— 6.09	31	— 4.68	40	— 4.50
	20.00–40.00	—30.00	61	—16.31	57	—16.23	56	—16.07	1	—25.00	3	—11.67
	40.00 and over	—50.00	3	—35.00	4	—35.00	1	—15.00	3	—41.67	..	....
	Total	Number of Bank-Years	402	....	403	....	368	....	35	....	43	....
		Dependent Variable: Av.	...	— 8.13	...	— 7.71	...	— 7.64	..	— 8.43	..	— 5.00
		Independent Variable: Av.	...	—11.37	...	—11.09	...	—11.30	..	—10.43	..	— 8.49

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

In Table 21, net earnings ratios relative to their type-levels are secured when ratios of, first, total deposits *and* of investments, and, second, of total deposits *and* of time deposits are simultaneously high or low relative to their respective levels. In Table 22 (p. 87), similar results are given when account is taken of three independent variables. Certain parts of this table, to which reference is made by column and line numbers, are of interest, that portion relating to net earnings ratios for the sixty-four cities being singled out for especial attention.

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Member Banks in California for 1925, 1926, and 1927 Combined

Dependent Variable: Total Expense to Earning Assets

Various Yearly Averages)

in Ratios: Total Expense to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
396	....	156	....	122	....	118	....	392	....	218	....	91	....	83	....
...	+11.39	...	+12.96	...	+10.41	...	+10.34	...	+11.58	...	+12.62	...	+10.49	...	+10.06
...	+ 6.94	...	+ 7.24	...	+ 6.72	...	+ 6.78	...	+ 7.78	...	+ 8.07	...	+ 7.64	...	+ 7.17
5	+23.00	4	+27.50	...	....	1	+ 5.00	4	+27.50	4	+27.50	...	....	...	....
57	+16.40	27	+18.33	15	+16.33	15	+13.00	47	+16.49	33	+18.64	10	+ 7.00	4	+22.50
334	+ 5.09	125	+ 4.20	107	+ 5.37	102	+ 5.88	341	+ 6.35	181	+ 5.72	81	+ 7.72	79	+ 6.39
322	— 5.71	164	— 5.67	88	— 6.02	70	— 5.43	328	— 6.10	207	— 6.26	82	— 6.34	39	— 4.74
63	—15.32	24	— 9.58	19	—20.79	20	—17.00	61	—15.82	36	—15.28	10	—14.00	15	—18.33
2	—45.00	...	....	...	....	2	—45.00	2	—40.00	...	....	...	....	2	—40.00
387	....	188	....	107	....	92	....	391	....	243	....	92	....	56	....
...	— 7.48	...	— 6.17	...	— 8.64	...	— 8.80	...	— 7.79	...	— 7.59	...	— 7.17	...	— 9.64
...	—11.69	...	—10.96	...	—12.01	...	—12.83	...	—11.45	...	—10.97	...	—10.43	...	—15.18

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

Net earnings ratios are *highest* when total deposits, time deposits, and investments are all low—line 18, column 4.

Net earnings ratios are noticeably low when total deposits, time deposits, and investments are all high—line 5, column 4.

Net earnings ratios are relatively high when the following conditions simultaneously occur:

Ratios: Total Deposits to Earning Assets	Ratios: Time Deposits to Total Deposits	Ratios: Investments to Earning Assets	Line	Column
low	low	high	17	4
low	low	low	18	4
low	high	low	15	4
high	low	low	9	4

TABLE

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR INDIVIDUAL

Independent Variable: Total Deposits to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Total Deposits to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	1 381	2	3 380	4	5 334	6	7 46	8	9 45	10 ....
		Independent Variable: Av.	...	+11.90	...	+11.84	...	+12.40	..	+ 7.84	..	+ 7.44
		Dependent Variable: Av.	...	— 5.26	...	— 5.32	...	— 5.84	..	— 1.52	..	+ 1.00
	40.00 and over	+50.00	7	—10.71	7	—10.71	7	—10.71	..	....	..	....
	20.00–40.00	+30.00	58	— 6.38	55	— 8.64	54	— 8.70	1	— 5.00	1	+25.00
	Under 20.00	+10.00	316	— 4.94	318	— 4.62	273	— 5.15	45	— 1.45	44	+ 0.45
Below the Average	Under 20.00	—10.00	338	± 0.00	342	+ 0.50	311	+ 0.50	31	+ 0.48	40	— 3.50
	20.00–40.00	—30.00	61	+ 7.13	57	+ 5.88	56	+ 6.25	1	—15.00	3	—28.33
	40.00 and over	—50.00	3	— 8.33	4	+ 3.75	1	—25.00	3	+11.67	..	....
	Total	Number of Bank-Years	402	....	403	....	368	....	35	....	43	....
		Dependent Variable: Av.	...	+ 1.02	...	+ 1.28	...	+ 1.30	..	+ 1.00	..	— 5.23
		Independent Variable: Av.	...	—11.37	...	—11.09	...	—11.30	..	—10.43	..	— 8.49

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

Net earnings ratios are relatively low when other ratios are as indicated:

RATIOS: Total Deposits to Earning Assets	RATIOS: Time Deposits to Total Deposits	RATIOS: Investments to Earning Assets	LINE	COLUMN
high	high	high	5	4
high	high	low	6	4
low	high	high	14	4

While the conditions above in the form given hold strictly only for the sixty-four cities, they tend to obtain also for the cities in the Twelfth District.

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Member Banks in California for 1925, 1926, and 1927 Combined
Dependent Variable: Net Earnings to Earning Assets
Various Yearly Averages)

in Ratios: Net Earnings to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
396	....	156	....	122	....	118	....	392	....	218	....	91	....	83	....
...	+11.39	...	+12.96	...	+10.41	...	+10.34	...	+11.58	...	+12.62	...	+10.49	...	+10.06
...	− 4.55	...	− 6.67	...	− 4.84	...	− 1.44	...	− 5.54	...	− 5.55	...	− 8.41	...	− 2.35
5	−21.00	4	−40.00	...	....	1	+55.00	4	−37.50	4	−37.50	...	....	...	....
57	− 6.40	27	− 7.22	15	− 8.33	15	− 3.00	47	− 6.28	33	−15.91	10	+ 3.00	4	+50.00
334	− 3.98	125	− 5.48	107	− 4.35	102	− 1.76	341	− 5.06	181	− 2.96	81	− 9.81	79	− 5.00
322	− 0.34	164	+ 0.24	88	− 2.84	70	+ 1.43	328	+ 0.18	207	− 1.33	82	+ 4.02	39	+ 0.13
63	+ 5.16	24	+12.08	19	+11.32	20	− 9.00	61	+ 8.94	36	+11.39	10	+12.00	15	+ 1.00
2	+25.00	...	....	...	....	2	+25.00	2	+10.00	...	....	...	....	2	+10.00
387	....	188	....	107	....	92	....	391	....	243	....	92	....	56	....
...	+ 0.68	...	+ 1.76	...	− 0.33	...	− 0.33	...	+ 1.60	...	+ 0.56	...	+ 4.89	...	+ 0.71
...	−11.69	...	−10.96	...	−12.01	...	−12.83	...	−11.45	...	−10.97	...	−10.43	...	−15.18

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

The amounts in Table 22 are the net average percentage differences from type for ratios of gross earnings, of total expense, and of net earnings—the dependent variables—corresponding to the nature of deviations for three independent variables. Table 23 (p. 88), on the other hand, for each of the dependent variables, gives the *proportions* of the ratios which are above their average levels, account being taken, as in Table 21, of the deviations in the independent series. The contrasts line by line in column 4 are of interest.

It will be noted from Table 22 that the highest net earnings

TABLE 21

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to City Levels		Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District			
		Number of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Number of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
Total Deposits to Earning Assets	Investments to Earning Assets		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
Above	Average..........	201	−0.39	+0.06	−2.17	20	−2.37	−1.17	−5.83
	Above...........	113	−2.48	−2.18	−2.67	15	−2.13	−0.27	− 7.51
	Below...........	88	+2.29	+2.94	−1.53	5	−3.09	−3.87	− 0.79
Below	Average..........	183	+2.01	+1.33	+4.07	28	+4.16	+3.01	+7.57
	Above...........	81	−1.39	−1.58	−0.72	7	−2.90	−2.70	− 3.94
	Below...........	102	+4.71	+3.63	+7.87	21	+6.52	+4.91	+11.41
Average	Average..........	384	+0.75	+0.67	+0.80	48	+1.44	+1.27	+1.99
	Above...........	194	−2.03	−1.93	−1.85	22	−2.37	−1.04	− 6.37
	Below...........	190	+3.59	+3.31	+3.51	26	+4.67	+3.22	+ 9.06
Total Deposits to Earning Assets	Time Deposits to Total Deposits	......	......	......	......	......	......	......	......
Above	Average..........	201	−0.39	+0.06	−2.17	20	−2.37	−1.17	−5.83
	Above...........	110	−1.03	+0.34	−5.38	13	−2.14	−0.10	− 7.92
	Below...........	91	+0.38	−0.27	+1.70	7	−2.79	−3.17	− 1.93
Below	Average..........	183	+2.01	+1.33	+4.07	28	+4.16	+3.01	+7.57
	Above...........	77	+0.02	+0.61	−1.78	9	+0.55	+0.34	+ 1.01
	Below...........	106	+3.46	+1.84	+8.31	19	+5.87	+4.27	+10.68
Average	Average..........	384	+0.75	+0.67	+0.80	48	+1.44	+1.27	+1.99
	Above...........	187	−0.60	+0.45	−3.89	22	−1.04	+0.08	− 4.27
	Below...........	197	+2.04	+0.87	+5.26	26	+3.54	+2.27	+ 7.28

TABLE 22

CORRELATION OF YEARLY CITY PERCENTAGE DIFFERENCES OF NATIONAL BANK RATIOS IN PAIRED SERIES, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to City Levels			Line Number	Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District			
				No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
Ratios: Total Deposits to Earning Assets	Ratios: Time Deposits to Total Deposits	Ratios: Investments to Earning Assets			G.E. / E.A.	T.E. / E.A.	N.E. / E.A.		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
				1	2	3	4	5	6	7	8
Above	Average	Average	1	201	—0.39	+0.06	—2.17	20	—2.37	—1.17	—5.83
		Above	2	113	—2.48	—2.18	— 2.67	15	—2.13	—0.27	— 7.51
		Below	3	88	+2.29	+2.94	— 1.53	5	—3.09	—3.87	— 0.79
	Above	Average	4	110	—1.03	+0.34	—5.38	13	—2.14	—0.10	—7.92
		Above	5	66	—2.51	—1.38	— 4.99	12	—2.20	—0.09	— 8.17
		Below	6	44	+1.18	+2.92	— 5.95	1	—1.45	—0.20	— 4.94
	Below	Average	7	91	+0.38	—0.27	+1.70	7	—2.79	—3.17	—1.93
		Above	8	47	—2.44	—3.30	+ 0.60	3	—1.83	—1.00	— 4.84
		Below	9	44	+3.40	+2.97	+ 2.88	4	—3.51	—4.79	+ 0.25
Below	Average	Average	10	183	+2.01	+1.33	+4.07	28	+4.16	+3.01	+7.57
		Above	11	81	—1.39	—1.58	— 0.72	7	—2.90	—2.70	— 3.94
		Below	12	102	+4.71	+3.63	+ 7.87	21	+6.52	+4.91	+11.41
	Above	Average	13	77	+0.02	+0.61	—1.78	9	+0.55	+0.34	+1.01
		Above	14	36	—3.40	—2.13	— 6.27	3	—2.57	—2.40	— 3.48
		Below	15	41	+3.03	+3.02	+ 2.17	6	+2.12	+1.71	+ 3.25
	Below	Average	16	106	+3.46	+1.84	+8.31	19	+5.87	+4.27	+10.68
		Above	17	45	+0.22	—1.14	+ 3.72	4	—3.15	—2.92	— 4.28
		Below	18	61	+5.84	+4.04	+11.70	15	+8.28	+6.19	+14.67
Average	Average	Average	19	384	+0.75	+0.67	+0.80	48	+1.44	+1.27	+1.99
		Above	20	194	—2.03	—1.93	— 1.85	22	—2.37	—1.04	— 6.37
		Below	21	190	+3.59	+3.31	+ 3.51	26	+4.67	+3.22	+ 9.06
	Above	Average	22	187	—0.60	+0.45	—3.89	22	—1.04	+0.08	—4.27
		Above	23	102	—2.82	—1.65	— 5.44	15	—2.27	—0.55	— 7.23
		Below	24	85	+2.07	+2.97	— 2.03	7	+1.61	+1.44	+ 2.08
	Below	Average	25	197	+2.04	+0.87	+5.26	26	+3.54	+2.27	+7.28
		Above	26	92	—1.14	—2.24	+ 2.13	7	—2.59	—2.10	— 4.52
		Below	27	105	+4.82	+3.59	+ 8.00	19	+5.80	+3.88	+11.63

occur when the respective ratios in the stub are low, the average net amount, for the banks fulfilling this condition, being 11.70 per cent above the average level. On the other hand, when they are all high, the net percentage deviation of net earnings, as shown in Table 22, is 4.99 per cent below the average level. Corresponding to the positive 11.70 per cent and to the negative 4.99 per cent deviation, respectively, the *proportions* of net earnings ratios above their levels, as shown by Table 23, are 72.13

TABLE 23

Proportions of Gross Earnings, of Total Expense, and of Net Earnings Ratios above Their Respective Averages for Variable Ratios of Total Deposits, of Time Deposits, and of Investments

(National Banks by Cities, 1922–1927)

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to City Levels			Line Number	Number of City Bank-Years	Proportion of Cases above Their City Averages		
Ratios: Total Deposits to Earning Assets	Ratios: Time Deposits to Total Deposits	Ratios: Investments to Earning Assets			G.E./E.A.	T.E./E.A.	N.E./E.A.
				1	2	3	4
Above	Average	Average....	1	201	44.77	47.76	40.30
		Above......	2	113	33.62	38.05	38.05
		Below......	3	88	59.10	60.23	43.18
	Above	Average....	4	110	42.73	47.27	33.64
		Above......	5	66	36.36	40.90	33.33
		Below......	6	44	52.27	56.81	34.09
	Below	Average....	7	91	47.25	48.35	48.35
		Above......	8	47	29.78	34.04	44.68
		Below......	9	44	65.90	63.63	52.28
Below	Average	Average....	10	183	55.73	50.82	53.55
		Above......	11	81	43.20	39.50	41.97
		Below......	12	102	65.68	59.80	62.74
	Above	Average....	13	77	44.15	44.15	36.36
		Above......	14	36	27.77	27.77	22.22
		Below......	15	41	58.52	58.52	48.78
	Below	Average....	16	106	64.15	55.66	66.04
		Above......	17	45	55.55	48.88	57.78
		Below......	18	61	70.50	60.65	72.13
Average	Average	Average....	19	384	50.00	49.22	46.62
		Above......	20	194	37.62	38.66	39.69
		Below......	21	190	62.62	60.00	53.68
	Above	Average....	22	187	43.31	45.98	34.76
		Above......	23	102	33.33	36.27	29.41
		Below......	24	85	55.30	57.65	41.17
	Below	Average....	25	197	56.33	52.27	57.86
		Above......	26	92	42.40	41.30	51.10
		Below......	27	105	68.57	61.90	63.80

and 33.33. Observe from Table 23 also that the proportions of net earnings ratios above their levels are larger when investments are low than they are when investments are high, irrespective of the positions of the ratios of total deposits and of time deposits (lines 2 and 3; 5 and 6; 8 and 9; 11 and 12; 14 and 15; 17 and 18; 20 and 21; 23 and 24; and 26 and 27); that the proportion of net earnings ratios is larger when total deposits are low than it is when they are high (line 10 compared with line 1), and are larger when time deposits are low than when they are high (line 25 compared with line 22).

If gross earnings, total expense, and net earnings ratios tend to be inversely correlated with ratios of total deposits, as measured by net average percentage deviations from type, similar inverse relations may or may not be evident when the proportion of instances is the standard of measurement. So far as net earnings ratios are concerned, the two methods of measurement agree in indicating inverse relations. If similar comparisons are made for gross earnings and for total expense ratios, results approximating those for net earnings are secured. Indeed, in general, if ratios of gross earnings tend to be relatively high (low), total expense ratios are high (low) for the same conditions respecting total deposits, time deposits, and investments.

But net earnings ratios depend not only upon the factors just mentioned but also, among other things, upon the relative effect which these factors have upon gross earnings and total expense, the difference between which gives net earnings. Accordingly, in addition to the independent variables treated above, let two others —gross earnings and total expense—be introduced. What effect on net earnings have variations in all of them taken simultaneously? The results are provided in Table 24 (p. 90), from which it is seen, first, that the proportions of cases in which net earnings ratios are above their averages are larger under every condition, as defined by the stub variables, when both gross earnings and total expense are above, than when they are below, or when one is above (below) and the other below (above) their respective averages. (In this connection, compare by lines the amounts in columns 3, 4, and 5.) Second, when ratios of total deposits, of time deposits, and of investments are low (line 18)—conditions most favorable to high ratios of gross earnings, of total expense, and of net earnings—the proportion of cases of net earnings

TABLE 24

NET AVERAGE PERCENTAGE DIFFERENCES AND PROPORTION OF CASES OF NET EARNINGS RATIOS ABOVE THEIR AVERAGES ASSOCIATED WITH VARIABLE RATIOS OF GROSS EARNINGS, TOTAL EXPENSE, TOTAL DEPOSITS, TIME DEPOSITS, AND INVESTMENTS

(National Banks by Cities, 1922–1927)

(G.E. = Gross Earnings; T.E. = Total Expense; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to City Levels			Line Number	Number of City Bank-Years	Ratios: Net Earnings to Earning Assets			
					Net Percentage Difference from City Average	Proportion of Cases Above City Averages		
Ratios: Total Deposits to Earning Assets	Ratios: Time Deposits to Total Deposits	Ratios: Investments to Earning Assets				G.E./E.A. & T.E./E.A. Above Their Averages	G.E./E.A. & T.E./E.A. Below Their Averages	G.E./E.A. & T.E./E.A. Above or Below Their Averages
				1	2	3	4	5
Above	Average	Average	1	201	−2.17	56.57	26.37	40.30
		Above	2	113	− 2.67	54.83	30.15	38.05
		Below	3	88	− 1.53	57.77	17.85	43.18
	Above	Average	4	110	−5.38	47.50	21.57	33.64
		Above	5	66	− 4.99	45.00	25.72	33.33
		Below	6	44	− 5.95	50.00	12.50	34.09
	Below	Average	7	91	+1.70	66.67	32.50	48.35
		Above	8	47	+ 0.60	72.73	35.72	44.68
		Below	9	44	+ 2.88	64.00	25.00	52.28
Below	Average	Average	10	183	+4.07	76.25	22.05	53.55
		Above	11	81	− 0.72	79.15	10.53	41.97
		Below	12	102	+ 7.87	75.00	36.66	62.74
	Above	Average	13	77	−1.78	62.95	11.11	36.36
		Above	14	36	− 6.27	66.67	00.00	22.22
		Below	15	41	+ 2.17	61.90	28.58	48.78
	Below	Average	16	106	+8.31	83.02	34.37	66.04
		Above	17	45	+ 3.72	83.33	25.00	57.78
		Below	18	61	+11.70	82.86	43.75	72.13
Average	Average	Average	19	384	+0.80	66.67	24.53	46.62
		Above	20	194	− 1.85	65.45	22.77	39.69
		Below	21	190	+ 3.51	67.32	27.58	53.68
	Above	Average	22	187	−3.89	53.72	17.24	34.76
		Above	23	102	− 5.44	50.00	15.79	29.41
		Below	24	85	− 2.03	56.08	20.00	41.17
	Below	Average	25	197	+5.26	76.40	33.33	57.86
		Above	26	92	+ 2.13	79.30	31.81	51.10
		Below	27	105	+ 8.00	75.00	35.71	63.80

being high, at the same time that both gross earnings and total expense ratios are also high, is relatively large—83 out of 100 cases. On the other hand, third, when ratios of total deposits, of time deposits, and of investments are high (line 5)—conditions favorable to low ratios of gross earnings, of total expense, and of net earnings—the percentage of instances when net earnings are high, at the same time that gross earnings and total expense ratios are high, is relatively small—45 out of 100 cases. In general, fourth, conditions favorable to high net earnings ratios —consult the stub variables opposite the plus (+) amounts in column 2—make it relatively certain that the proportions which are high will be large when gross earnings and total expense ratios are high. (Compare the amounts with plus signs in column 2 with the corresponding proportions in column 3.) Contrariwise, fifth, conditions favorable to low net earnings ratios—consult the stub variables opposite the minus (−) amounts in column 2—make it relatively certain that the proportions which are high will be small when gross earnings and total expense ratios are high. (Compare the amounts with minus signs in column 2 with the corresponding proportions in column 3.)

The matter just presented is perforce complicated. The purpose of introducing it is, among other things, to indicate that while ratios of net earnings are inversely correlated with ratios of total deposits to earning assets, this association is not unique. Such ratios, as measured by their net average percentage difference from type, are also inversely related to ratios of time deposits and of investments. Moreover, the proportions of them under given circumstances—those associated with variable conditions in the series just mentioned—which are above or below their own average levels depend upon the relative positions of ratios of gross earnings and of total expense—their immediate antecedents. The results of this inclusive analysis, while difficult to state in simple language, are for the most part clear and may easily be grasped by attentive readers.

A few outstanding conclusions result from the part of this chapter relating to the interrelation of banking series. A bare enumeration may take the following form:

1. When total deposit ratios are high (low), ratios of gross earnings, of total expense, and of net earnings are low (high). (Table 22, lines 1 and 10, respectively.)

2. High total deposit ratios have a relatively greater influence in producing low ratios of net earnings than of occasioning low ratios of gross earnings and of total expense. (Table 22, line 1.)

3. Low ratios of total deposits have a relatively greater influence in producing high ratios of net earnings than occasioning high ratios of gross earnings and of total expense. (Table 22, line 10.)

4. When ratios of investments are high (low), ratios of gross earnings, of total expense, and of net earnings are low (high). (Table 22, lines 20 and 21, respectively.)

5. When ratios of time deposits are high (low), ratios of gross earnings, of total expense, and of net earnings are low (high). (Table 22, lines 22 and 25, respectively.)

6. High (low) ratios of time deposits exert a greater tendency in occasioning low (high) ratios of net earnings than low (high) ratios of gross earnings and of total expense. (Table 22, lines 22 and 25, respectively.)

7. When ratios of total deposits are high (low) and *at the same time* ratios of investments are high (low), ratios of net earnings are lower (higher) than they are when either of the conditions separately obtains. (Compare the amounts in Table 22 on lines 2 and 1, and 2 and 20, column 4; and those on lines 12 and 10, and 12 and 21, column 4.)

8. When ratios of total deposits are high, and *at the same time* ratios of *both* investments and time deposits are high, ratios of net earnings are lower than they are when any one of the conditions separately occurs. (Compare the amount in Table 22 on line 5 with the amounts on lines 1, 20, and 22, respectively, column 4.)

9. When ratios of total deposits are low and *at the same time* ratios of *both* investments and time deposits are low, ratios of net earnings are higher than they are when any one of the conditions separately occurs. (Compare the amount in Table 22 on line 18 with the amounts on lines 10, 21, and 25, respectively.)

10. In order to secure relatively *high* net earnings ratios, ratios of total deposits, of investments, and of time deposits should be relatively low, the highest amount occurring when they are simultaneously in this condition.[1] Based upon the experience of national banks, for the period under consideration, this rule of action seems relatively safe.

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[1] The average net earnings ratio to earning assets for California member banks having in the year 1925,

low total deposit, low investment, and low time deposit ratios is 1.76;

for those having in this year

high total deposit, high investment, and high time deposit ratios, it is 1.48.

That is, there is a favorable difference, when these ratios are simultaneously low, of .28 points, or, relative to the rate of 1.48, 19 per cent.

CHAPTER V

RATIOS OF DEMAND AND OF TIME DEPOSITS TO EARNING ASSETS

Total deposits for purposes of this study are made up of the demand and of the time items.[1] Deposits of both types arise in the ordinary course of business and are the chief sources of the funds out of which banks make their loans and their investments. Accordingly, it is of interest to study the relations which the deposit items bear to the earning assets and to the total deposits of banks of different types and location. This chapter has to do with ratios of demand deposits and of time deposits to earning assets.

For the years 1922 to 1927, combined, demand deposits of national banks in the principal cities of the country amount to \$58.84 for each \$100.00 of earning assets. For the same class of banks in cities of the Twelfth District, the corresponding amount is \$58.44. In no one of the years does the average amount differ by as much as five points from the six-year average for the respective city-groups, the average difference being .98 of a point for the sixty-four cities, and 1.83 points for the eight cities in the Twelfth District.

For the several classes of banks the ratios are as follows:

Classes of Banks	Ratios: Demand Deposits to Earning Assets	
	1922–1927	1925–1927
National Banks: 64 cities	58.84	58.18
National Banks: 8 cities, Twelfth District	58.44	56.78
National Banks: San Francisco, Los Angeles, and Oakland	60.58	57.98
All Member Banks: California	.....	62.36

The ratios for the national banks, by cities, and for the individual member banks in California, however, differ widely from these averages. For the sixty-four cities, there are 10 per cent, and for the cities in the Twelfth District, 2 per cent of the ratios which at some time within the years 1922–1927 are less than 40 per cent. At the other extreme, 18 per cent of the ratios in the sixty-four cities, and 4 per cent of those for the cities in the Twelfth District exceed 70 per cent—that is, $70 of demand deposits for each $100 of earning assets. The most common ratios for both groups fall within the limits of 60 to 70 per cent.

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[1] For definition of the terms, see p. 56.

The distribution of the ratios for member banks in California is somewhat different. While it is evident, from the summary on the preceding page for 1925–1927, that the average ratio for the member banks in California is higher than the corresponding ratios for the sixty-four cities and for the eight cities, respectively, the ratios predominating are lower. As will be seen later, the ratios are generally higher for banks in small than for those in large cities. Small cities prevail in California, which fact tends to determine the average ratios for the entire state. The seeming inconsistency between the average and the prevailing amounts may in part be accounted for by the differences in the ratios in the several parts of the state—a topic discussed later in this chapter. Moreover, the ratios depend upon the type and the size of the institutions. What are the characteristic relationships?

Based upon the years 1925–1927, the average ratios for California member banks classified by type are as follows:

Types of Banks	Ratios: Demand Deposits to Earning Assets
Average	62.36
National Unit	65.07
State Unit	49.33
National Banks with Branches	55.25
State Banks with Branches	39.26

The ratios are relatively low for the state, and relatively high for the national members. Moreover, they are lower for state banks with branches than for national banks with branches. This condition also obtains in each of the years 1925 to 1927. If relatively high ratios of demand deposits to earning assets are conducive to relatively high ratios of net earnings to earning assets, as will be shown later to be the case, then, other things being equal, national banks, both those operating as units and those with branches, are advantageously placed. The facts in these respects are presented later. Suffice it for the time being to note the characteristic differences associated with types of institutions.

Not only are there differences in the ratios according to bank type, but there are also differences according to bank size—as measured by average earning assets. The larger institutions have the smaller average ratios. This rule obtains not only for the combined but also for the individual years, 1925, 1926, and 1927. Moreover, it tends to hold when account is taken of bank types by size. The ratios for all banks, classified according to size alone, are given below, the differences between them being distinctive and persistent.

Amount of Earning Assets (Average 1925–1927)	Ratios: Demand Deposits to Earning Assets			
	All Years	1925	1926	1927
Average	62	63	62	61
Under $1,000,000	68	69	68	67
$1,000,000 to $3,000,000	57	60	58	54
$3,000,000 and Over	49	50	48	49

California is predominantly a state of small cities and towns. Account is taken of this fact in the following summary which shows the average ratios of demand deposits to earning assets for banks classified according to the size of the city in which they are located.

Size of City (1920) in Which Located	Ratios: Demand Deposits to Earning Assets			
	All Years	1925	1926	1927
Average	62	63	62	61
Under 2,500	67	68	68	65
2,500 to 15,000	62	63	61	61
15,000 and Over	56	58	56	54

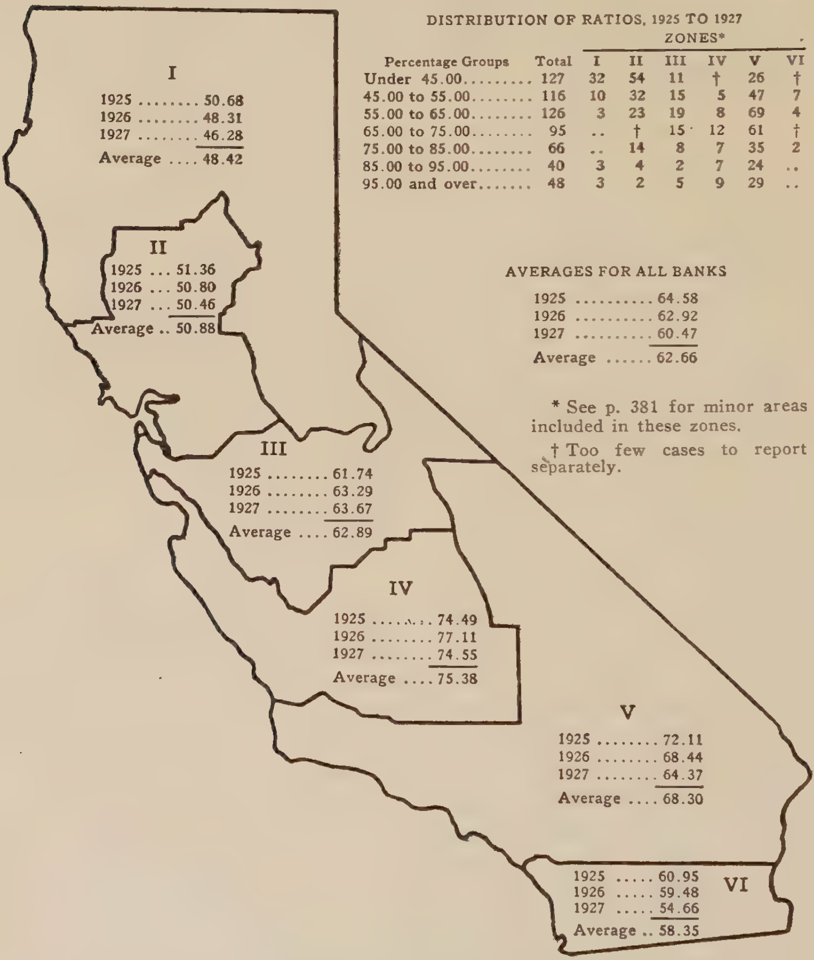
For each year, and for the combined years, the following relationship obtains: the larger the city the smaller the average ratio. Moreover, this rule characterizes the national unit members; it is less evident for the other types as classified, primarily, in the case of the state units because of the relatively small number of banks for which data are available, and in the cases of national and of state banks with branches because only totals for such institutions, embracing all branch operations, are reported.

Banks in different parts of the state have different ratios of demand deposits to earning assets. If no account is taken of the various bank types—all classes being combined—the geographical levels are as given in Chart 15 (p. 96). The ratios are lowest in Zone I and highest in Zone IV. North of Zones V and VI, the

CHART 15

Average Ratios of Demand Deposits to Earning Assets, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 45.00	127	32	54	11	†	26	†
45.00 to 55.00	116	10	32	15	5	47	7
55.00 to 65.00	126	3	23	19	8	69	4
65.00 to 75.00	95	..	†	15	12	61	†
75.00 to 85.00	66	..	14	8	7	35	2
85.00 to 95.00	40	3	4	2	7	24	..
95.00 and over	48	3	2	5	9	29	..

AVERAGES FOR ALL BANKS

1925	64.58
1926	62.92
1927	60.47
Average	62.66

* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

ratios systematically decrease from south to north. Such a tendency also obtains for banks of a given size and for those located in cities of the same size. Zone I has the lowest average ratio in spite of the fact that it is a section of small towns and of small banks, the ratios of which are normally high. The peculiar financial requirements of the business interests of this section, however, are of such a character as readily to explain the relatively small demand deposits of its banks. Deposit accounts here, in comparison with those in other parts of the state, are inactive and the demand for typically commercial bank accommodation—short term loans—slight. That this is true is shown on Chart 1 (p. 13), according to which the ratio of loans and discounts to earning assets in this zone is lower than in any other distinctive part of the state. In contrast with conditions in Zone I, as respects both demand deposit and loan ratios, is Zone IV, in which the average and prevailing ratios of these series are relatively high. In general, geographically and otherwise, there is a close correspondence between ratios of demand deposits and those of loans and discounts.

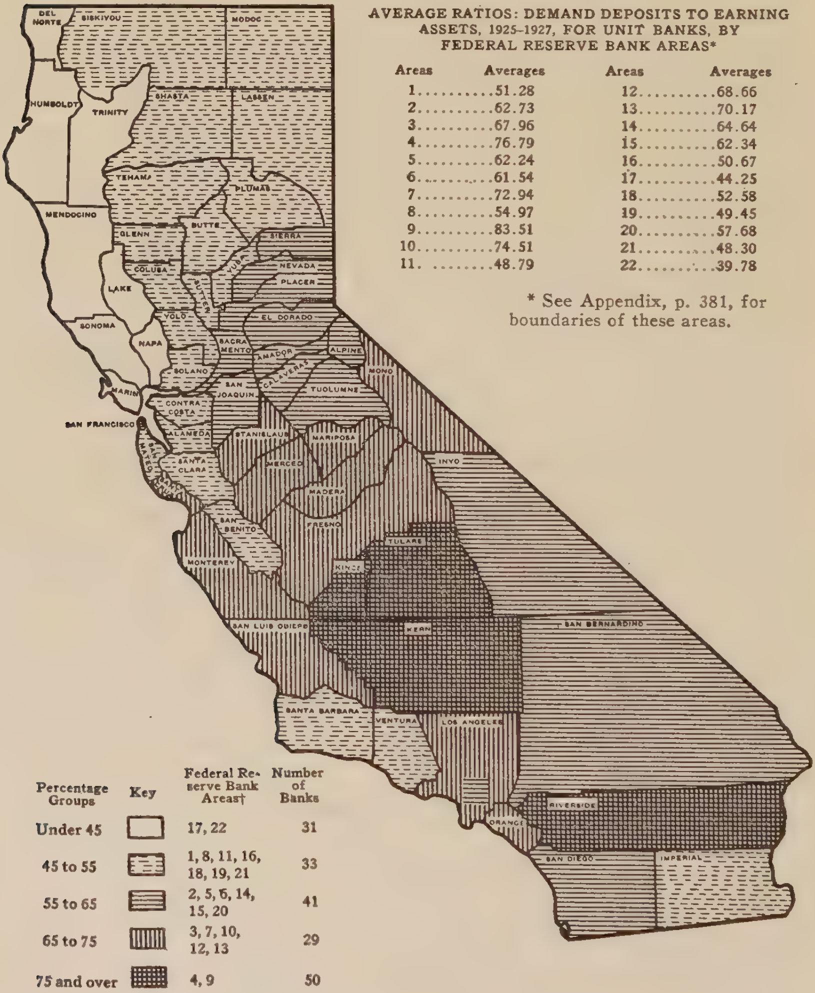
But in no one of the zones on Chart 15 are all of the individual ratios the same. Dispersion is apparent from the tabular details on this chart which give the number of institutions by zones having ratios falling in different classes. From zone to zone the distributions are different, and this fact is shown in the averages. These amounts, while smoothing out the differences, do not, as does Chart 16 (p. 98), show that areas of different levels are found in the same zone. This is conspicuously the case in Zone I (Chart 15) in which the coast section (Chart 16) is found to be lower than that of the interior.

In Chart 16, different parts of the state having the same class ratios are similarly marked, thus making it easy for the reader geographically to identify them. Different as are the major zones, as indicated in Chart 15, each of them contains smaller regions having ratios common to all zones. But the ratios of these smaller areas are not identical. Diversity still obtains—a fact which is evident (1) from the tabular matter on Chart 16, giving average ratios for each of twenty-two areas and the number of unit banks with ratios falling in the classified groups, and (2) from the summary which is shown on page 99 relating to Riverside, Orange, and Los Angeles counties.

So far as amounts are concerned, it may be said in summary that average ratios of demand deposits to earning assets for national banks are essentially the same for the sixty-four Central Reserve, Reserve, and Other Reserve cities as for eight of the cities in the Twelfth District. For California members for the years 1925–1927, the average ratios are higher than are those for

CHART 16

Regions of California Having Unit Banks with Classified Average Ratios of Demand Deposits to Earning Assets, 1925 to 1927



AVERAGE RATIOS: DEMAND DEPOSITS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	51.28	12	68.66
2	62.73	13	70.17
3	67.96	14	64.64
4	76.79	15	62.34
5	62.24	16	50.67
6	61.54	17	44.25
7	72.94	18	52.58
8	54.97	19	49.45
9	83.51	20	57.68
10	74.51	21	48.30
11	48.79	22	39.78

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas†	Number of Banks
Under 45	☐	17, 22	31
45 to 55	⬚	1, 8, 11, 16, 18, 19, 21	33
55 to 65	▤	2, 5, 6, 14, 15, 20	41
65 to 75	▥	3, 7, 10, 12, 13	29
75 and over	▦	4, 9	50

† See p. 381.

national banks in the two groups of cities just named, although the prevailing ratios are lower. Within California the ratios decrease as the size of institutions increases, and they decrease as the cities in which they are located increase in size. Moreover, they are different geographically. Those in the extreme north are the lowest. From this level they increase until, proceeding south, Zone V is encountered, for which area the average ratio for the three years is 20 points, or 42 per cent, higher than the corresponding ratio in Zone I. Beyond this region the ratios again decrease, reaching an average level in Zone VI of 58.35 per cent. Between Northern and Southern California—Zones I to IV, inclusive, comprising the north, and Zones V and VI, making up the south—there is a difference of 11 points, the north being lower.

Ratios: Demand Deposits to Earning Assets (Percentage Groups)	Population of Cities (1920)					
	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	65	36	13	6*	4*	6*
Under 55.00	8	4	.....†	.....	.....	.....
55.00 to 65.00	17	8	3	.....	.....	.....
65.00 to 75.00	15	6	6	.....	.....	.....
75.00 to 85.00	9	6	.....†	.....	.....	.....
85.00 to 95.00	9	8	.....†	.....	.....	.....
95.00 and Over	7	4	.....†	.....	.....	.....
Riverside County	76.79	79.79	.....†	65.34	.....	.....
Orange County	68.55	63.73	75.44	.....†	.....	.....
Los Angeles County	74.94‡	78.44	72.60	67.61	67.27	63.31
Average	73.22	76.32	73.25	68.35	67.27	63.31

* Too few cases to distribute.

† Too few banks to report separately.

‡ Does not include Los Angeles City.

During the six years 1922–1927 there are 320 ratio-changes possible for the national banks—five changes for each of the sixty-four cities. Of these, 168, or 53 per cent, are decreases. Of the 40 changes for city ratios in the Twelfth District, 25, or 63 per cent, are decreases. The average net decrease per city per year in the former case is .68 of a point; in the latter, 1.15 points. These net average changes, however, are primarily due to the types of change occurring in certain cities. Which these are, it is possible to determine in the case of the national banks for the country as a whole. If an average ratio for each year is determined for the thirty-two cities which are lowest and for the thirty-two which are highest, based on 1922, 1923, or any other year, it is found, except for the change between 1924 and 1925—when 1922 is used as the base for determining relative levels—that when the direction of change is down, city ratios which are high fall more than do those which are low; and that when the direction of change is up, those which are low rise more or fall less than do those which are high. This condition obtains when both consecutive and non-consecutive years are compared.

CHART 17

REGRESSION OF RATIOS OF DEMAND DEPOSITS TO EARNING ASSETS FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922 TO 1927

(Arrayed in 1922—same banks each year)

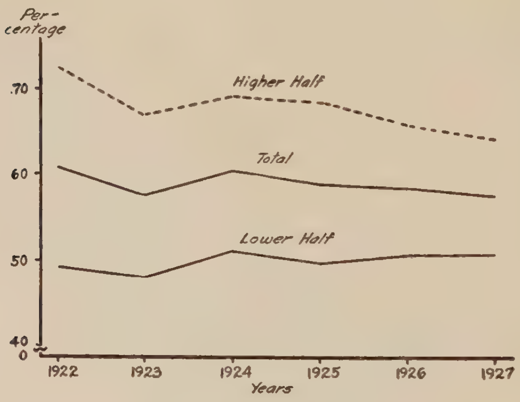


Chart 17 shows the average amounts each year for the thirty-two cities termed high and low, respectively, in 1922. The inclinations of the lines show the directions, and their comparative positions on the scales indicate the net average amounts of change.

Table 25 gives the net year-to-year amounts (points) and directions of change for non-consecutive years for city ratios which are high or low in 1922 and high or low in 1923. It also presents the average changes for all city ratios. It is apparent, when the ratios are rising, as determined by the changes for the entire number of cities, non-arrayed, that those which are low increase more than do those which are high; and that when they fall, as similarly determined, those which are low decrease less than do those which are high, or in fact increase, comparisons being made between ratios for the same cities each year.

TABLE 25

NET AVERAGE AMOUNTS AND DIRECTIONS OF CHANGE OF "HIGH" AND OF "LOW" RATIOS OF DEMAND DEPOSITS TO EARNING ASSETS FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES

Nature of Array	Positions of City-Ratios	Net Average Increase (+) or Decrease (—)						
		1922 to 1924	1923 to 1925	1924 to 1926	1925 to 1927	1922 to 1925	1923 to 1926	1924 to 1927
In order of size, 1922	Lowest 32	+2.15	+1.72	—0.82	+0.78	+0.53	+2.52	—0.84
	Highest 32	—3.46	+1.27	—3.28	—3.80	—4.33	—1.14	—4.67
In order of size, 1923	Lowest 32	......	+2.37	—0.16	+0.18	......	+3.57	—1.18
	Highest 32	......	+0.62	—3.94	—3.20	......	—2.19	—4.33
Non-arrayed		—0.66	+1.50	—2.04	—1.51	—1.90	+0.70	—2.65

Table 25 and Chart 17, for city ratios of demand deposits to earning assets, clearly indicate regression to type, the pattern of change being systematic. Are member banks in California behaving similarly in the years 1925 to 1927? That they are is established by the detail in Chart 18 (p. 102), in which, for the state as a whole and for its major sections, comparisons are made from year to year between ratios which are high and between those which are low in 1925—the same institutions at the different levels being considered each year.

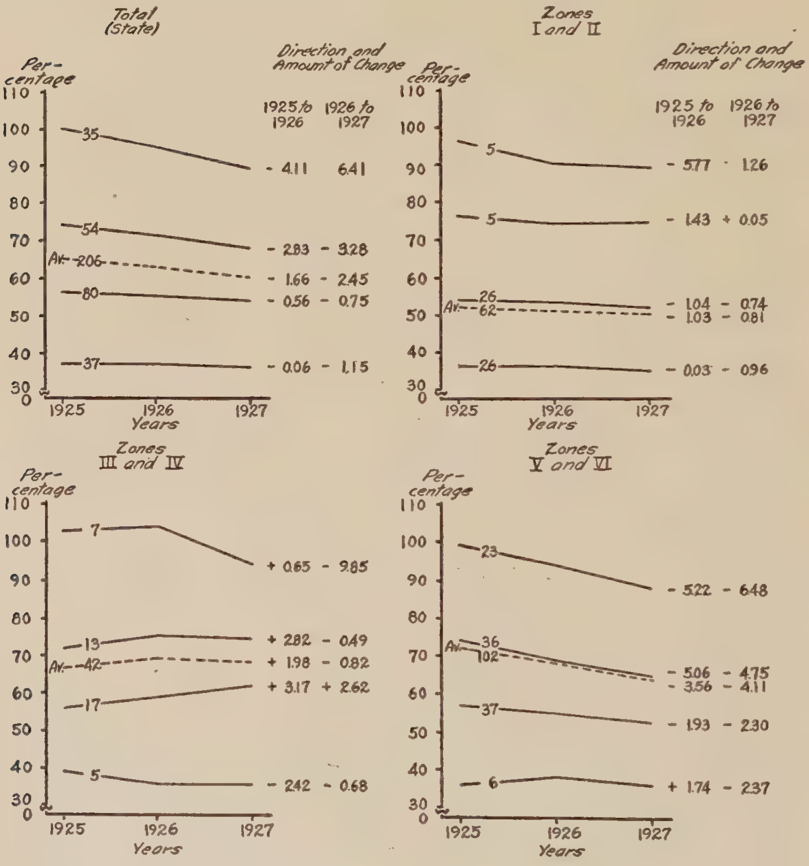
It will be seen from Chart 18 that the direction of change, determined by the averages for the state and for the respective sections, is downward from year to year but not uniformly so at each level. At the highest levels the fall is greatest; at the lowest levels, least. Moreover—a fact not indicated on the chart—for ratios which on the average are low and for those which are high, the percentages of instances increasing and decreasing are different. Decreases predominate at each level, the excess tending to increase at successively higher levels.

Net year-to-year changes are further presented in Chart 19 (p. 103), the amounts in this case being the averages for city ratios for national banks. The ratios are arrayed in successive years and average results are secured for all of the pairs of years for which data are available. The chart presents the results for the national banks in the country as a whole and for those in the Twelfth District. The changes characterizing both groups are alike. Ratios which are high in an initial year fall in a subsequent year; those which are low, subsequently rise. Movement toward type is present throughout the arrays, the number of ratios which

CHART 18

Regression of Ratios of Demand Deposits to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)

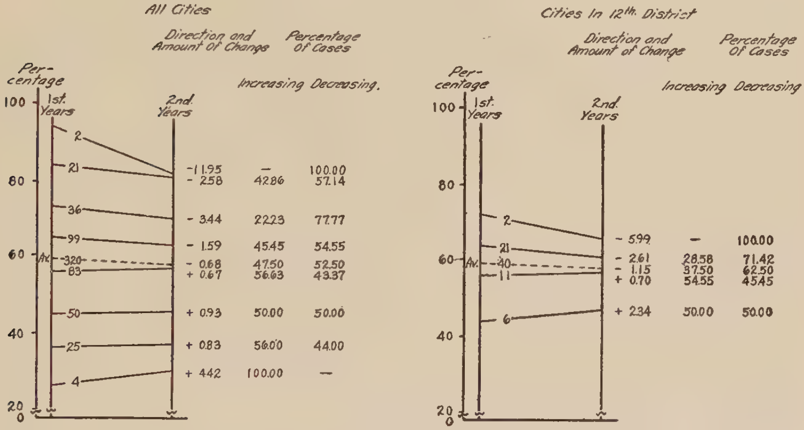


increase being proportionally largest for ratios which are low and relatively smallest for those which are high. At or near the average levels for both groups of cities, the increases offset the decreases, leaving the net average amount of change approximately zero.

It should be remembered that in Chart 19 the results refer to the average changes between successive years, the ratios being

CHART 19

REGRESSION OF RATIOS OF DEMAND DEPOSITS TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1922 TO 1927, FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES



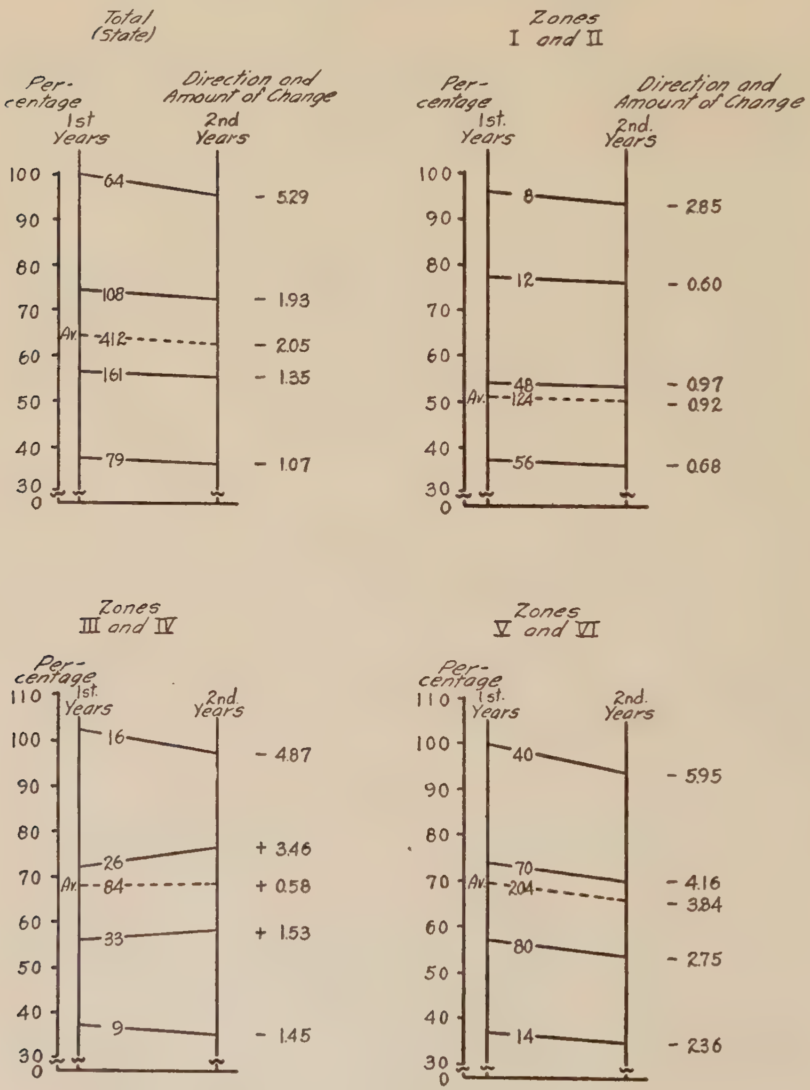
arrayed each year. In this particular, they differ from those shown in Chart 17 and in Table 25. Despite the differences in the methods of treating the data, the patterns of change are alike. Broadly speaking, the results seem conclusive.

Changes in the ratios of demand deposits to earning assets characterizing national banks by cities are duplicated in essential details by those for member banks in California. For one type of analysis, this fact is apparent from a comparison of Charts 17 and 18; for another, from an inspection of Charts 19 and 20.

Chart 20 (p. 104), for member banks of California and for its different parts, illustrates the average net changes in ratios of demand deposits to earning assets in two pairs of successive years. What is true for the state as a whole, moreover, is in general true for its parts. The ratios decline, notwithstanding the fact that the levels are different. In each section of the state, those which are high fall most; and, with one exception, those which are low decline least. Moreover, what is true for both obtains in each pair of years. At each level, decreases predominate: when ratios are low, the predominance is least; when they are high, it is greatest.

CHART 20

REGRESSION OF RATIOS OF DEMAND DEPOSITS TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1925 TO 1927, FOR CALIFORNIA MEMBER BANKS, BY ZONES



When all of the evidence available is considered, it therefore appears to be the rule for ratios of demand deposits to regress to type; for changes in these ratios between successive years to take on a definite pattern.

The normal condition from year to year is for banks to increase the actual amounts of their deposits and of their earning assets. Funds derived from time deposits are sometimes loaned, but more generally are invested. Banks normally prefer to stimulate their loans; they less characteristically desire to add appreciably to their investment funds, the return upon which is generally lower than is that on loans.[1] Accordingly, in order to secure funds for loans, efforts are made to increase demand deposits. These efforts, however, are competitive[2] under conditions of industry and trade varying from time to time,[3] and from place to place at the same time.[4] At whatever ratio levels banks customarily operate—these have been shown to be different within California according to size of institution, size of city, and location—changes, due to varying relations between demand deposits and earning assets, are constantly in process. Over a period of years, the general drift may be downward, as is the rule with respect to the ratios under review. In this movement, however, individual banks or groups of institutions by cities or regions take different parts. Those which for time or place are abnormally high contribute most; those which are exceptionally low share least in the general result, as measured by the net average displacement. Competition between institutions helps to explain (1) the diversity in the ratios at a given time and place, and (2) the changes between years at different places.

The preceding chapter had to do with ratios of total deposits to earning assets. Total deposits being the sum of the demand and of the time items, ratios of time deposits to earning assets are the differences between the demand deposits and the total

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[1] For all national banks in the United States for the year 1927, ending June 30, interest on loans was 5.50 per cent of total loans and discounts, and interest and dividends on investments 4.27 per cent of total investments. Comptroller's Report, 1927.

[2] This fact tends to explain the variable ratios at a given time and place.

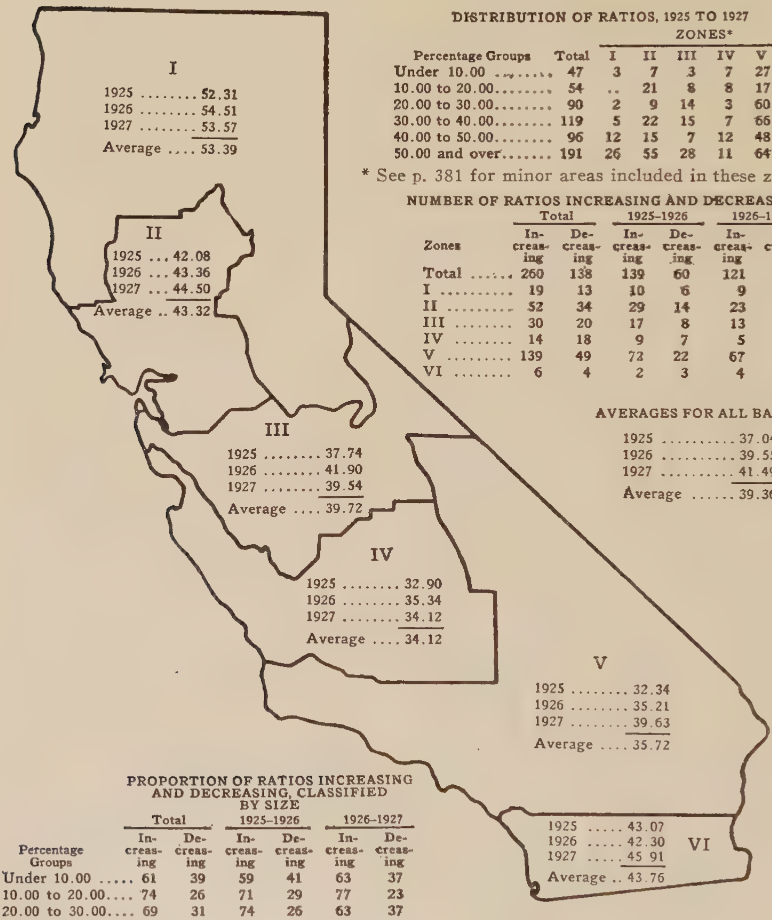
[3] This fact accounts for different ratios for the years under review.

[4] This fact accounts for different ratios in different cities, districts, and localities in the same years.

CHART 21

Average Ratios of Time Deposits to Earning Assets, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 10.00	47	3	7	3	7	27	..
10.00 to 20.00........	54	..	21	8	8	17	..
20.00 to 30.00........	90	2	9	14	3	60	2
30.00 to 40.00........	119	5	22	15	7	66	4
40.00 to 50.00........	96	12	15	7	12	48	2
50.00 and over.......	191	26	55	28	11	64	7

* See p. 381 for minor areas included in these zones.

NUMBER OF RATIOS INCREASING AND DECREASING

Zones	Total		1925–1926		1926–1927	
	Increasing	Decreasing	Increasing	Decreasing	Increasing	Decreasing
Total	260	138	139	60	121	78
I	19	13	10	6	9	7
II	52	34	29	14	23	20
III	30	20	17	8	13	12
IV	14	18	9	7	5	11
V	139	49	73	22	67	27
VI	6	4	2	3	4	1

AVERAGES FOR ALL BANKS

1925	37.04
1926	39.55
1927	41.49
Average	39.36

PROPORTION OF RATIOS INCREASING AND DECREASING, CLASSIFIED BY SIZE

Percentage Groups	Total		1925–1926		1926–1927	
	Increasing	Decreasing	Increasing	Decreasing	Increasing	Decreasing
Under 10.00	61	39	59	41	63	37
10.00 to 20.00....	74	26	71	29	77	23
20.00 to 30.00....	69	31	74	26	63	37
30.00 to 40.00....	77	23	85	15	70	30
40.00 to 50.00....	62	38	66	34	58	42
50.00 and over...	56	44	63	37	50	50

deposits both expressed in this unit. This being the case, it is unnecessary fully to discuss the levels of and the changes in the time deposit ratios. It will suffice to introduce Chart 21, applying to member banks in California, the intent of which is to summarize some of the more important facts. Among others, the following may be mentioned: First, the average ratios are different in different sections of the state. Second, within each section the ratios of individual banks vary widely. Third, from year to year, for the state as a whole and for each zone, the prevailing tendency is for the ratios to increase, such increases, however, being relatively less common when the ratios are relatively high than when they are relatively low. Contrariwise, when the ratios are low, relatively more of them increase than decrease from year to year. The behavior of these ratios is in keeping with that discovered for others—a regression to type growing out of the competitive "give and take" of institutions operating in a closely articulated market.

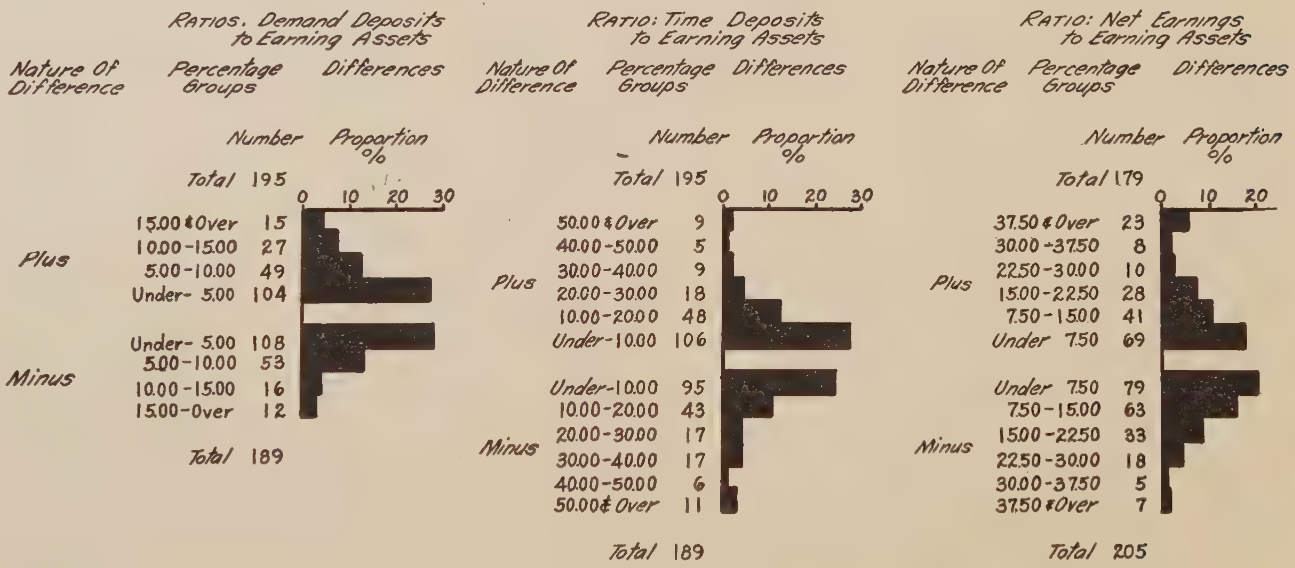
In what has just been said, ratios of demand deposits and of time deposits to earning assets have been treated as independent series—as though they had no relation to other results of bank management. This, of course, is not the case, and it is worth while to examine the collective experience of a number of banks to determine what are the characteristic interrelations between these and other series. Specifically, the inquiry is of this order: In what way and to what degree are net earnings ratios, for instance, associated with, if not causally dependent upon, ratios of demand deposits and of time deposits to earning assets?

Preparatory to the study of this topic, it should be borne in mind that (1) the principal sources of bank funds from which loans and investments are made are deposits; (2) demand deposits are normally used for commercial loans; (3) time deposits are customarily invested; (4) interest paid on deposits—chiefly on time items—is the largest single cost of bank operation; and (5) the clerical expense of handling active demand deposits is relatively large.

The basic data available for tracing the relationships between net earnings and variable demand and time deposit ratios, as in other correlations examined, apply to (1) national banks for the years 1922–1927, and (2) member banks in California for the years 1925–1927. For both groups of institutions, yearly deviations or differences from type for the correlated variables are calculated and expressed as percentage amounts. These, for the national institutions, are distributed in Chart 22 (p. 108), the total number of percentage differences being 384 for each series.

CHART 22

FREQUENCIES OF PERCENTAGE DIFFERENCES FROM TYPES FOR NATIONAL BANKS IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922 TO 1927



RATIOS. Demand Deposits to Earning Assets

Nature Of Difference	Percentage Groups	Differences Number
	Total	195
Plus	15.00 & Over	15
	10.00-15.00	27
	5.00-10.00	49
	Under- 5.00	104
Minus	Under- 5.00	108
	5.00-10.00	53
	10.00-15.00	16
	15.00-Over	12
	Total	189

RATIO: Time Deposits to Earning Assets

Nature Of Difference	Percentage Groups	Differences Number
	Total	195
Plus	50.00 & Over	9
	40.00-50.00	5
	30.00-40.00	9
	20.00-30.00	18
	10.00-20.00	48
	Under-10.00	106
Minus	Under-10.00	95
	10.00-20.00	43
	20.00-30.00	17
	30.00-40.00	17
	40.00-50.00	6
	50.00 & Over	11
	Total	189

RATIO: Net Earnings to Earning Assets

Nature Of Difference	Percentage Groups	Differences Number
	Total	179
Plus	37.50 & Over	23
	30.00-37.50	8
	22.50-30.00	10
	15.00-22.50	28
	7.50-15.00	41
	Under 7.50	69
Minus	Under 7.50	79
	7.50-15.00	63
	15.00-22.50	33
	22.50-30.00	18
	30.00-37.50	5
	37.50 & Over	7
	Total	205

It will be seen from Chart 22 that the deviations are essentially normally distributed around their means, those which are small being relatively frequent, and those which are large—plus (+) or minus (−)—being relatively few. In the manner in which differences are here presented, it is impossible to measure the relationship between them. To do so, however, it is necessary only to use methods already described, and to adopt suitable measurements for generalizing the relations which are discovered. Those found for national banks in the sixty-four cities are given in Table 26 (p. 110) ; those for eight of the cities in the Twelfth District, in Table 27 (p. 112). Both tables merit examination.

Table 26 shows that ratios of demand deposits and of net earnings, both measured in units of earning assets, are positively correlated. Observe the distribution and the alignment of the frequencies. There are 384 paired items on the face of this frequency surface. In the form in which it is prepared it is divided into four parts. The horizontal heavy line separates the demand deposit ratios into two parts, those above and those below their averages; the vertical heavy line divides the net earnings ratios into similar portions. To illustrate: To the left of the vertical and above the horizontal line the respective paired ratios are all above their averages. On the other hand, those below the horizontal and to the right of the vertical line are below their respective averages. These quarters, respectively, contain 104 and 114 paired differences, or together, 218. This amount constitutes 57 per cent of the total pairs. When ratios of demand deposits are above their averages, the majority of the net earnings ratios are above their averages, 53 per cent of all of the cases fulfilling this condition. On the other hand, when demand deposits are below their averages, ratios of net earnings tend to be below their averages, 60 per cent of all of the instances following this rule.

But, in indicating positive correlation, the *alignment* of the paired differences is as important as is the *number* of instances of like signs. Generally speaking, the higher (lower) the demand deposits (net earnings) differences, the higher (lower) are those of net earnings (demand deposits). Averages indicating such relations are given in the columns at the right, and at the bottom of the table. They indicate (1) that for a given positive (negative) difference in the demand deposits (net earnings) ratios, the net average difference in ratios of net earnings (demand deposits)

TABLE 26

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	15.00 and over	2[sf]	..	..	2[sf]	2	5[sf][la]	2	1	1	..	..	..	15	+21.77	+ 9.27
	10.00–15.00	4	..	2[la]	4[sf]	4[la]	....	5	4[o]	2	2	..	..	27	+12.21	+ 7.00
	5.00–10.00	2	2	3	6	5	8	9	7	5	2	..	..	49	+ 6.99	+ 3.49
	Under 5.00	4	4	3	7	15	20[o]	22	15[o][la]	7	5	1	1	104	+ 2.32	+ 1.36
Below the Average	Under 5.00	9	2	..	2	8	20[o]	24[o]	20	12	6	1	4	108	— 2.38	— 1.55
	5.00–10.00	1	..	1	6[o]	4	10	13[la]	11	5	..	1	1	53	— 7.09	— 1.59
	10.00–15.00	1	..	1	..	1	5	2	3	..	3	..	..	16	—12.16	+ 1.08
	15.00 and over	..	..	..	1	2	1	2	2[la]	1	..	2[sf]	1	12	—29.80	—10.04
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+52.78	+33.14	+26.04	+17.50	+11.08	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			
	Ratios: Demand Deposits to Earning Assets (Net)	+ 3.33	+ 2.30	+ 3.72	+ 3.31	+ 1.48	+ 0.48	— 0.25	— 1.00	— 1.09	+ 0.69	—20.74	— 7.63			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

is positive (negative); and (2) that the greater the deviation in the one (the other) the greater the deviation in the other (the one). Stated in another way, it tends to be true that

> If ratios of demand deposits to earning assets are relatively high or low, ratios of net earnings to earning assets are relatively high or low; and
>
> The higher or lower the ratios of demand deposits, the higher or lower are those of net earnings, both amounts being measured in terms of earning assets.

While the foregoing generalizations apply to national banks in the sixty-four cities, they are equally applicable to such banks in eight of these cities located in the Twelfth District. This fact is apparent from Table 27 which is constructed in the same manner as Table 26 and is to be similarly interpreted.

Positive correlation between ratios of demand deposits and ratios of net earnings is obviously not causal in the immediate sense. Net earnings are residual, and whatever influence demand deposits exert upon them must be through gross earnings and total expenses. It will be recalled that relatively high (low) demand deposits are associated with relatively high (low) loans and discounts, and that relatively high (low) loans and discounts go with high (low) gross earnings. Other things being equal, positive correlation is to be expected between ratios of demand deposits and gross earnings. This is found to be the case for national banks, the results, in summary form, being presented in column 4 of Table 28 (p. 113).

It was observed earlier that the handling of active commercial deposits is expensive. Demand, as contrasted with other, deposits being essentially of this type, positive correlation, other things being equal, is to be expected between them and total expense. This is the condition encountered for national banks, the relations being summarized in column 5 of Table 28. That is, in general, when demand deposits are high (low), ratios of total expense are high (low), relative positions being determined in each series—the deviations of which are paired—by the respective six-year city averages.

Table 28 is of sufficient interest to warrant further attention. For the sixty-four cities, observe (1) that for a given average percentage deviation in demand deposits there is complete agreement among the types of net average percentage differences for

TABLE 27

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets in National Banks in Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Demand Deposits to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)*							Total		
		Number of City Bank-Years							No. of City Bank-Years	Average Percentage Differences	
		Above the Average				Below the Average					
Position	Percentage Groups	22.50 and Over	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	15.00 and over	1^{sf}	1^{sf}	...	$3^{sf\,la}$	...	...	...	5	+20.92	+16.70
	10.00–15.00	2^{la}	1^{sf}	1^{la}	...	1	2^{o}	...	7	+11.05	+10.73
	5.00–10.00	...	...	...	2	1	...	...	3	+ 6.86	+ 3.44
	Under 5.00	...	...	1	5^{o}	2	$3^{o\,la}$	1	12	+ 2.17	— 3.88
Below the Average	Under 5.00	1	...	...	4^{o}	3^{o}	2	2	12	— 2.20	— 1.18
	5.00–10.00	...	2^{o}	...	1	2^{la}	...	1	6	— 6.50	+ 1.80
	10.00 and over	...	1	...	...	...	1^{la}	1^{sf}	3	—23.34	— 7.87
Total	No. of City Bank-Years	4	5	2	15	9	8	5	48 / 48		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+41.86	+17.19	+11.40	+ 4.23	— 3.77	—11.90	—23.04			
	Ratios: Demand Deposits to Earning Assets (Net)	+10.76	— 0.32	+ 6.87	+ 4.99	— 0.38	+ 0.69	— 7.78			

^{sf} San Francisco
^{o} Oakland
^{la} Los Angeles

gross earnings, total expense, and net earnings. This agreement is indicated by the signs (+) or (—) opposite the amounts in columns 4, 5, and 6; (2) that without exception, so far as groups are concerned, when demand deposits are high, each of the other series is also high, and the greater the positive deviation in the first, the greater is the positive net deviation in each of the others; and (3) that, with one (group) exception, when demand deposits are low, each of the other series is low, and the greater the negative deviation in the one, the greater is the negative net deviation in the others.

For national banks in the eight cities, relations of the type just

TABLE 28

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(*Percentage Differences from the Respective City Averages, 1922–1927*)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Differences in Ratios: Demand Deposits to Earning Assets			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Average Percentage Differences Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
	Percentage Groups	Average Percentage		$\frac{\text{G.E.}}{\text{E.A.}}$	$\frac{\text{T.E.}}{\text{E.A.}}$	$\frac{\text{N.E.}}{\text{E.A.}}$			$\frac{\text{G.E.}}{\text{E.A.}}$	$\frac{\text{T.E.}}{\text{E.A.}}$	$\frac{\text{N.E.}}{\text{E.A.}}$
	1	2	3	4	5	6	7	8	9	10	11
Above the Average	Total (Av.)	+ 6.36	195	+2.17	+1.59	+ 3.40	+ 8.46	27	+ 2.43	+ 1.78	+ 4.53
	15.00 and over	+21.77	15	+6.76	+6.25	+ 9.27	+20.92	5	+15.81	+15.62	+16.70
	10.00–15.00	+12.21	27	+3.06	+1.46	+ 7.00	+11.05	7	+ 1.33	— 1.88	+10.73
	5.00–10.00	+ 6.99	49	+2.57	+2.13	+ 3.49	+ 6.86	3	+ 0.25	— 0.87	+ 3.44
	Under 5.00	+ 2.32	104	+1.08	+0.69	+ 1.36	+ 2.17	12	— 1.95	— 1.19	— 3.88
Below the Average	Under 5.00	— 2.38	108	—0.60	—0.26	— 1.55	— 2.20	12	+ 1.02	+ 1.69	— 1.18
	5.00–10.00	— 7.09	53	—0.69	—0.48	— 1.59	— 6.50	6	— 0.43	— 1.24	+ 1.80
	10.00–15.00	—12.16	16	+1.32	+1.34	+ 1.08	—23.24*	3	— 2.07	— 0.02	— 7.87
	15.00 and over	—29.80	12	—4.43	—1.91	—10.04	....	..	....	....	....
	Total (Av.)	— 6.27	189	—0.70	—0.29	— 1.88	— 6.45	21	+ 0.17	+ 0.61	— 1.28

* 10.00 and over.

summarized are less uniform although, series by series, both bodies of data agree in indicating the same type of association. Compare for instance the signs and amounts in Table 28, columns 4 and 9; 5 and 10; and 6 and 11.

Space is not available in the text to present frequency surfaces showing the interrelation of ratios of gross earnings and of total expense with those of demand deposits. This, however, is done in the Appendix.[1] The material in Table 28 summarizes the averages for these surfaces.

Using the collective experiences of national banks as a basis of generalization, it is therefore concluded that

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[1] Pages 427–428.

1. Conditions generally favorable to relatively high
   ratios of gross earnings, of total expense, and of net earnings are found in high ratios of demand deposits.
2. Conditions generally favorable to relatively low
   ratios of gross earnings, of total expense, and of net earnings are found in low ratios of demand deposits.

Do these relations obtain in California member banks? On the whole they do, as is found from the material and evidence now to be presented.

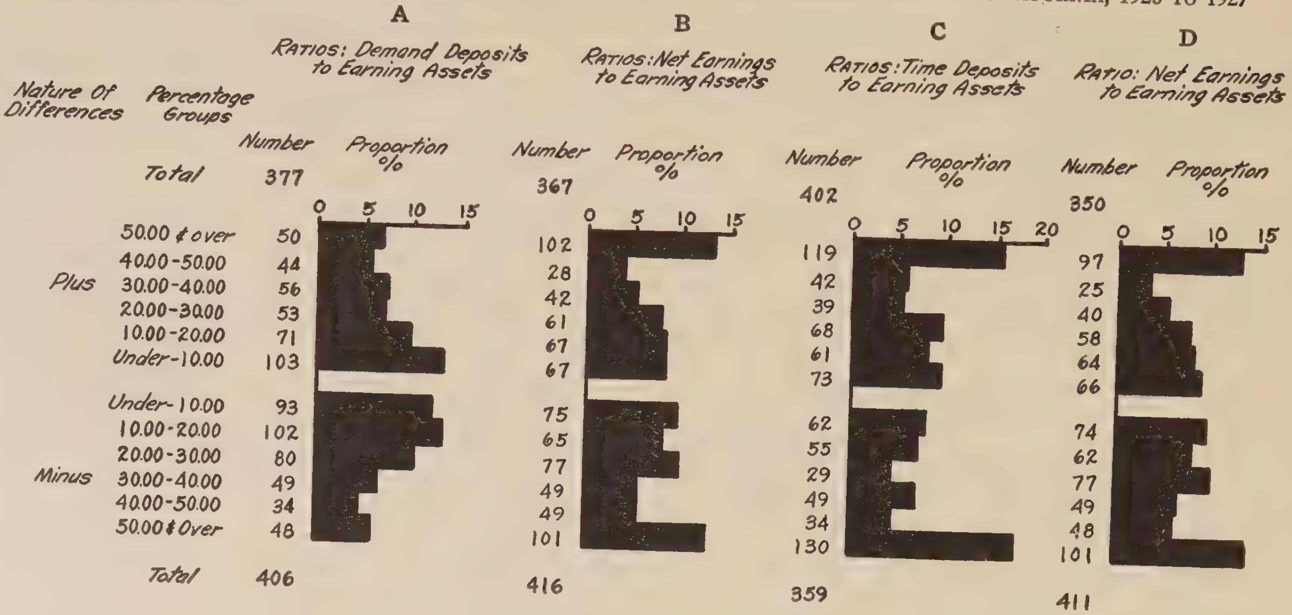
In the study of the interrelations of series of data, bank by bank, among the California member institutions, type amounts for the correlated variables are found in various averages. Those which are used are yearly amounts for the banks as a whole and for certain groups. When volume-group averages are employed, the percentage differences are distributed as in Chart 23, the first two distributions at the left being considered at this place. The others will be discussed presently.

But in the form of presentation in Chart 23, as in that for the corresponding series for national banks, Chart 22, the respective series are isolated—each stands alone. It is a simple matter to determine the nature and amount of interrelation between them by pairing the deviations each year bank by bank, totaling the paired frequencies, and selecting suitable averaging devices for summarizing the results. The methods of doing this are the same as those used for national banks and previously described. The results for the correlated variables—ratios of demand deposits and of net earnings—are given in Table 29 (p. 116).

It is at once apparent that Table 29 shows a much wider distribution (variation) of both series than does Table 26, the latter referring to national banks by cities. Despite this fact, however, the general results in the two tables are the same. That is, (1) when demand deposits are high (low), ratios of net earnings tend to be high (low). Conversely, (2) when ratios of net earnings are high (low), ratios of demand deposits tend to be high (low). The first generalization follows from the comparative amounts in the summary columns at the right, the latter from those at the bottom of the table. The relations, moreover, are reasonably apparent from the alignment of the paired frequencies, that is, by the manner in which they are distributed on the frequency surface.

CHART 23

Frequencies of Percentage Differences from Types for All Member Banks in California, 1925 to 1927



Nature Of Differences	Percentage Groups	A Number	B Number	C Number	D Number
	Total	377	367	402	350
Plus	50.00 & over	50	102	119	97
	40.00-50.00	44	28	42	25
	30.00-40.00	56	42	39	40
	20.00-30.00	53	61	68	58
	10.00-20.00	71	67	61	64
	Under-10.00	103	67	73	66
Minus	Under-10.00	93	75	62	74
	10.00-20.00	102	65	55	62
	20.00-30.00	80	77	29	77
	30.00-40.00	49	49	49	49
	40.00-50.00	34	49	34	48
	50.00 & Over	48	101	130	101
	Total	406	416	359	411

TABLE 29

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from Respective Yearly Averages of the Respective Volume Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	9	3	4	7	4	5	2	4	3	3	4	2	50	+50.00	+10.32
	40.00–50.00	10	1	5	2	8	3	2	3	3	1	2	4	44		
	30.00–40.00	13	2	7	3	7	4	4	7	..	3	2	4	56	+30.00	+ 7.66
	20.00–30.00	11	3	2	5	2	6	..	5	5	2	6	6	53		
	10.00–20.00	12	3	6	6	6	5	4	3	4	4	6	12	71	+10.00	— 0.23
	Under 10.00	12	4	5	9	12	7	12	9	9	8	5	11	103		
Below the Average	Under 10.00	12	4	3	9	8	4	6	10	15	7	5	10	93	—10.00	— 2.28
	10.00–20.00	9	4	4	10	11	8	15	7	16	4	4	10	102		
	20.00–30.00	7	2	4	5	6	9	9	6	6	6	6	14	80	—30.00	— 9.88
	30.00–40.00	2	1	2	1	1	6	8	7	10	4	1	6	49		
	40.00–50.00	1	1	..	2	2	6	8	1	3	2	2	6	34	—50.00	—19.39
	50.00 and over	4	..	..	2	..	4	5	3	3	5	6	16	48		
Total	No. of Bank-Years	102	28	42	61	67	67	75	65	77	49	49	101	783 782		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+10.92		+ 8.69		+ 2.16		— 6.28		— 6.90		— 7.60				

But for California member banks, ratios not only of net earnings but also of gross earnings and of total expense are positively correlated with ratios of demand deposits. This fact, in summary, is revealed in section "A" of Table 30 (p. 118), where, for demand deposits deviating given percentage amounts positively and negatively from the respective volume-group averages, the corresponding net percentage amounts of deviation for ratios of gross earnings and of total expense are supplied. Observe (1) that when percentage differences of demand deposits are relatively high (low), the net percentage differences of the dependent variables—gross earnings and total expense—are also high (low); (2) that the higher (lower) the former, the higher (lower) the latter; and (3) that the signs of the net percentage deviations in the three dependent variables—gross earnings, total expense, and net earnings—substantially agree.[1] Results similar to these were secured for national banks. It is the rule, therefore, for banks generally, as covered in this study, for

> Relatively high (low) demand deposits to give relatively high (low) gross earnings, total expense, and net earnings.

But in Tables 29 and 30, relating to California member banks, types, in the correlated series, are found in the respective yearly averages of the volume groups. Does the selection of these base amounts determine the results which are secured? It does not appear to do so, inasmuch as the same sorts of correlation are found for the California members when the type averages are those for (1) all banks, (2) banks by classes, and (3) banks by size of city of location. Moreover, they hold for banks located in different parts of the state—zone grouping, I and II, III and IV, V and VI, as given in Chart 15.

The cumulative evidence presented up to this point seems conclusively to show that

> Relatively high demand deposits to earning assets give relatively high gross earnings and total expense, and that, despite the high total expense, they give relatively high net earnings.

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[1] The association between ratios of gross earnings, of total expense, and of net earnings and those of demand deposits to earning assets is shown by the frequency surfaces and their averages given in the Appendix, pp. 429–439.

TABLE 30

Correlation of Percentage Differences of Bank Ratios for California Member Banks, 1925, 1926, and 1927, Combined

(A)
Ratios of Gross Earnings, of Total Expense, and of Net Earnings with Demand Deposits

(B)
Ratios of Gross Earnings, of Total Expense, and of Net Earnings with Time Deposits

(Percentage Differences from the Respective Yearly Averages for the Respective Volume Groups)

Independent Variable—Percentage Differences in Ratios: Demand Deposits to Earning Assets			Line Number	Dependent Variables						Independent Variable—Percentage Differences in Ratios: Time Deposits to Earning Assets			Dependent Variables					
	Distance from Averages			Gross Earnings to Earning Assets		Total Expense to Earning Assets		Net Earnings to Earning Assets			Distance from Averages		Gross Earnings to Earning Assets		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average Percentage		Number	Average %	Number	Average %	Number	Average %	Position	Percentage Groups	Average Percentage	Number	Average %	Number	Average %	Number	Average %
	1	2		3	4	5	6	7	8		9	10	11	12	13	14	15	16
Above the Average	Total	Number of Bank-Years	1	386	.....	377	.....	377	.....	Above the Average	Total	Number of Bank-Years	407	.....	402	.....	402	.....
		Independent Variable: Average	2	...	+25.52	...	+25.45	...	+25.45			Independent Variable: Average	...	+31.68	...	+31.79	...	+31.79
		Dependent Variable: Average	3	...	+ 3.55	...	+ 1.42	...	+ 4.68			Dependent Variable: Average	...	+ 0.63	...	+ 2.79	...	— 9.90
	40.00 and over	+50.00	4	98	+ 8.57	94	+ 5.74	94	+10.32		40.00 and over	+50.00	162	— 1.67	161	+ 2.39	161	—18.79
	20.00–40.00	+30.00	5	110	+ 1.55	109	— 2.89	109	+ 7.66		20.00–40.00	+30.00	109	+ 2.16	107	+ 5.37	107	— 9.86
	Under 20.00	+10.00	6	178	+ 2.02	174	+ 1.78	174	— 0.23		Under 20.00	+10.00	136	+ 2.13	134	+ 1.19	134	+ 0.75
Below the Average	Under 20.00	—10.00	7	200	+ 0.25	195	— 0.13	195	— 2.28	Below the Average	Under 20.00	—10.00	120	+ 2.17	117	+ 8.97	117	+ 0.73
	20.00–40.00	—30.00	8	129	— 1.43	129	— 0.50	129	— 9.88		20.00–40.00	—30.00	81	+ 1.79	78	+ 2.18	78	— 3.46
	40.00 and over	—50.00	9	84	— 7.50	82	— 5.37	82	—19.39		40.00 and over	—50.00	169	— 0.92	164	— 8.05	164	+12.87
	Total	Number of Bank-Years	10	413	.....	406	.....	406	.....		Total	Number of Bank-Years	370	.....	359	.....	359	.....
		Dependent Variable: Average	11	...	— 1.85	...	— 1.31	...	— 8.15			Dependent Variable: Average	...	+ 0.67	...	— 2.91	...	+ 5.36
		Independent Variable: Average	12	...	—24.27	...	—24.34	...	—24.34			Independent Variable: Average	...	—34.18	...	—34.13	...	—34.13

Relatively low demand deposits to earning assets
  give relatively low gross earnings and total expense, and that, despite the low total expense, they give relatively low net earnings.

The higher the ratios of demand deposits to earning assets,
  the higher are the ratios of net earnings.

The lower the ratios of demand deposits to earning assets,
  the lower are the ratios of net earnings.

These findings, secured directly by correlating percentage differences from type for the respective series, are supported by matter which follows, in which the association between ratios of gross earnings, of total expense, and of net earnings is determined for variable ratios of time deposits to earning assets.

For national banks by cities the demand deposits and the time deposits together equal 86.32 per cent of the earning assets; for the California member banks the combined ratios are equal to the earning assets, that is, the ratio is 100 per cent. These are the average amounts for the combined years for the two bodies of data. For individual cities for national banks, and for individual banks for the California members, the combined amounts vary widely from these averages. Accordingly, it is desirable to determine the nature and degree of correlation which obtains for both groups of institutions between variable amounts in the respective series.

The center section of Chart 22 shows for national banks the manner in which the percentage differences are distributed about the type amounts. Observe that the percentage variations are wider than are those for demand deposits shown by the left-hand section of the same chart. Table 26 gives a summary of the interrelations between demand deposits and net earnings, the paired percentage differences being those shown in the left-hand and the right-hand sections of Chart 22. Table 31 (p. 120) does the same thing for the center and the hight-hand sections.

Table 31 shows that time deposits to earning assets and net earnings to earning assets are negatively correlated, this fact being evident from (1) the alignment of the frequencies, and (2) the summaries at the right and at the bottom. Observe in both that the corresponding amounts invariably have opposite signs, these being inverse throughout to those given in Table 26. Moreover, note that the greater the percentage deviations in one

TABLE 31

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TIME DEPOSITS TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS IN NATIONAL BANKS IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Time Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of City Bank-Years												Total		
		Above the Average						Below the Average						No. of City Bank-Years	Average Percentage Differences	
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over		Ratios: Time Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	1	..	1	2	2	..	2^{sf}	1	9	+62.46	—17.78
	40.00–50.00	..	..	..	1	..	1	..	2^{la}	..	..	..	1	5	+42.81	— 7.76
	30.00–40.00	..	..	..	1	2	2	2	..	1	1	..	..	9	+33.66	— 0.52
	20.00–30.00	1	..	..	1	1	2	3	2	3	1	1	3	18	+24.06	—10.87
	10.00–20.00	2	2	..	3^{o}	4	6	12^{la}	10^{o}	6	2	..	1	48	+14.28	— 2.15
	Under 10.00	3	1	3	4	5	23^{o}	28	20	13	5	1	..	106	+ 4.09	— 2.52
Below the Average	Under 10.00	3	2	1	10	16	11	17	19^{la}	6	8	1	1	95	— 4.90	+ 0.12
	10.00–20.00	7	2	..	2	5	13^{o}	9^{o}	4^{o}	1	..	..	..	43	—14.48	+10.15
	20.00–30.00	1	..	2^{la}	1	2^{la}	4	4	2	..	1	..	..	17	—25.68	+ 5.62
	30.00–40.00	1	1	..	4^{sf}	4	$3^{sf\,la}$	3	1	..	..	..	..	17	—34.24	+10.07
	40.00–50.00	1	..	1	..	..	8^{sf}	..	..	1	..	..	..	6	—44.76	+10.75
	50.00 and over	4^{sf}	..	3	1^{sf}	1	1	..	1	..	..	..	..	11	—57.56	+27.14
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+52.78	+33.14	+26.04	+17.50	+11.03	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			
	Ratios: Time Deposits to Earning Assets (Net)	—17.61	— 5.03	—24.99	— 4.89	— 3.10	— 4.41	+ 0.78	+ 3.05	+ 8.51	+ 1.12	+32.29	+24.24			

sf San Francisco
o Oakland
la Los Angeles

series the greater the net percentage deviations in the other; the "one" and "the other" referring, respectively, to time deposits and to net earnings, and vice versa.

The time and the demand deposits together, by definition, equal total deposits. If one relatively increases, the other decreases. Hence, if net earnings (time deposits) are negatively correlated with time deposits (net earnings), this fact supports the conclusion that net earnings (demand deposits) are positively correlated with demand deposits (net earnings). Moreover, it has been shown earlier[1] that net earnings are negatively correlated with total deposits. It follows, therefore, that the only deposit element in terms of earning assets, with which net earnings are positively associated, is that represented by the demand items.

Not only for national banks for all Federal Reserve districts are net earnings ratios negatively correlated with ratios of time deposits, but the same sort of correlation holds for these series for national banks in the eight cities in the Twelfth District. This fact is shown by the details—frequencies and summaries—in Table 32 (p. 122), according to which, for the respective groups, the signs in the lines giving average percentage differences for the independent and net average percentage differences for the dependent variables are invariably opposite. Moreover, the greater the positive difference in one series (by groups), the greater the negative difference (by groups) in the other series.

It was shown earlier that ratios of gross earnings and of total expense are hardly less perfectly positively correlated with ratios of demand deposits than are those of net earnings. The reverse of this condition—negative correlation—is less evident when percentage differences in ratios of gross earnings and of total expense are correlated with percentage differences in ratios of time deposits. This is clear from columns 4 and 5 in Table 33 (p. 123), according to which negative correlation is fairly represented for gross earnings: a condition normally expected, if, on the whole, time deposits are positively correlated—as they are—with investments, and if investments are negatively correlated—as they are—with gross earnings. The details given in Table 33, however, do not give a consistent relation for all of the dispersion classes. Indeed, relatively high gross earnings are sometimes the

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[1] Pages 72–78.

TABLE 32

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Earning Assets and Net Earnings to Earning Assets in National Banks in Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Time Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)							Total		
		Number of City Bank-Years							No. of City Bank-Years	Average Percentage Differences	
		Above the Average				Below the Average					
Position	Percentage Groups	22.50 and Over	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 and Over		Ratios: Time Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	10.00 and over	...	2[o]	...	1	1[la]	2[lao]	1[sf]	7	+28.01	— 2.42
	Under 10.00	...	...	...	4[o]	5	3	3	15	+ 3.98	— 6.52
Below the Average	Under 10.00	...	1	1	4	1	1[la]	1	9	— 4.02	+ 0.35
	10.00–20.00	2	...	...	3[o]	2[o]	2[o]	...	9	—13.52	+ 7.49
	20.00 and over	2[sfla]	2[sf]	1[la]	3[sfla]	...	...	...	8	—38.26	+17.46
Total	No. of City Bank-Years	4	5	2	15	9	8	5	48		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+41.86	+17.19	+11.40	+ 4.23	— 3.77	—11.90	—23.04			
	Ratios: Time Deposits to Earning Assets (Net)	—27.40	—10.09	—11.78	— 8.92	— 0.49	+ 5.04	+14.71			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

net result for banks with time deposits markedly above the average, as, indeed, for one group low gross earnings are found for banks with time deposits which are relatively low. By and large, however, an inverse relation obtains.

On the other hand, total expense ratios are relatively high when time deposits are both high and low. Indeed, they are relatively higher when time deposits are low than when they are high. This seems in a measure to bear out the contention of some bankers that, despite the high interest charges on time deposits, they are relatively less important than are the large clerical expenses, associated with active demand deposits, in increasing total expenses. This may be the case, although in the absence of data showing the amounts of expense attributable to

TABLE 33

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Differences in Ratios: Time Deposits to Earning Assets			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Average Percentage Differences Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
	Percentage Groups	Average Percentage		G.E./E.A.	T.E./E.A.	N.E./E.A.			G.E./E.A.	T.E./E.A.	N.E./E.A.
	1	2	3	4	5	6	7	8	9	10	11
	Total (Av.)	+13.49	195	− 0.76	+0.26	− 3.95	+11.63	22	− 1.42	− 0.15	− 5.21
Above the Average	50.00 and over	+62.46	9	− 7.13	−3.17	−17.78	....	..	....	....	....
	40.00–50.00	+42.81	5	+ 0.25	+3.74	− 7.76	....	..	....	....	....
	30.00–40.00	+33.66	9	+ 0.92	+1.84	− 0.52	....	..	....	....	....
	20.00–30.00	+24.06	18	− 2.71	+0.08	−10.87	....	....	....	..	....
	10.00–20.00	+14.28	48	− 0.02	+0.53	− 2.15	+28.01*	7	+ 0.40	+ 1.44	− 2.42
	Under 10.00	+ 4.09	106	− 0.41	+0.17	− 2.52	+ 3.98	15	− 2.28	− 0.89	− 6.52
Below the Average	Under 10.00	− 4.90	95	+ 0.37	+0.46	+ 0.12	− 4.02	9	− 2.27	− 3.10	+ 0.35
	10.00–20.00	−14.48	43	+ 3.59	+1.04	+10.15	−13.52	9	+ 2.82	+ 1.31	+ 7.49
	20.00–30.00	−25.68	17	− 0.50	−1.95	+ 5.62	−38.26†	8	+11.92	+10.02	+17.46
	30.00–40.00	−34.24	17	+ 3.73	+0.96	+10.07	....	..	....	....	....
	40.00–50.00	−44.76	6	+ 8.06	+8.39	+10.75	....	..	....	....	....
	50.00 and over	−57.56	11	+13.13	+7.46	+27.14	....	..	....	....	....
	Total (Av.)	−15.92	189	+ 2.31	+1.08	+ 5.70	−17.85	26	+ 3.86	+ 2.46	+ 8.08

* 10.00 and over.
† 20.00 and over.

these respective items, there is no way by which its truth or error may be determined.

The findings here presented, however, do not support the contention of the same bankers that in terms of the net return on each dollar of earning assets relatively large time deposits are preferable to relatively large demand deposits. This follows because all of the evidence available in this study clearly indicates that

When time deposits are relatively high, net earnings are relatively low; and

When time deposits are relatively low, net earnings are relatively high.

Conversely,

When demand deposits are relatively high, net earnings are relatively high; and

When demand deposits are relatively low, net earnings are relatively low.

The foregoing generalizations, so far as the interrelations of gross earnings, of total expense, and of net earnings ratios with ratios of time deposits are concerned, are based upon the experience of national banks for the sixty-four cities for the country as a whole. These results, except for the interrelations between net earnings and time deposits, do not entirely agree with those for the member banks in California. Indeed, for the California members, when time deposits are high (low), ratios of total expense are high (low). The association of low expense ratios with low time deposit ratios, however, is more noticeable than is that of high ratios of expense with high ratios of time deposits. But more about these relations presently!

As was the case with ratios of demand deposits and of net earnings to earning assets for California member banks (Table 29), so with ratios of time deposits and of net earnings, the dispersion is wide, and the correlation less marked than is the case for national banks by cities. Sections C and D, respectively, in Chart 23, show the percentage variations from type amounts—volume-group averages being employed for this purpose—for series of time deposits and of net earnings for member banks in California. Extreme cases in both series are numerous. Indeed, in the groups provided, the largest frequencies occur in the end classes. When, for series of time deposits and net earnings, the percentage deviations from type, bank by bank, are paired and distributed into classes, as is done in Table 34, it is found that the correlation is moderately negative. That is, when ratios of time deposits (net earnings) are high (low), ratios of net earnings (time deposits) are low (high). This is the same type of association found for national banks by cities for the years 1922–1927, and adds cumulatively to the evidence that this relationship

TABLE 34

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from Respective Yearly Averages of the Respective Volume Groups)

Ratios: Time Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Time Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	4	..	2	5	5	13	20	7	13	10	11	29	119	+50.00	—18.79
	40.00–50.00	2	1	1	3	..	5	5	5	9	1	1	9	42		
	30.00–40.00	2	2	2	4	2	3	5	2	6	7	1	3	39	+30.00	— 9.86
	20.00–30.00	4	3	1	4	4	5	6	8	14	6	4	9	68		
	10.00–20.00	7	1	1	6	6	5	10	5	5	2	4	9	61	+10.00	+ 0.75
	Under 10.00	12	3	8	8	4	5	5	8	3	7	2	8	73		
Below the Average	Under 10.00	9	3	1	2	7	3	4	9	4	4	8	8	62	—10.00	+ 0.73
	10.00–20.00	9	2	5	3	7	8	4	4	6	3	2	2	55		
	20.00–30.00	4	..	5	3	3	3	1	2	1	..	3	4	29	—30.00	— 3.46
	30.00–40.00	6	..	2	2	7	4	4	4	4	3	4	9	49		
	40.00–50.00	5	1	2	3	6	2	2	1	2	2	2	6	34	—50.00	+12.87
	50.00 and over	33	9	10	15	13	10	8	7	10	4	6	5	130		
Total	No. of Bank-Years	97	25	40	58	64	66	74	62	77	49	48	101	761 761		
Total — Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Time Deposits to Earning Assets (Net)	—18.44		—10.10		— 4.69		+ 9.70		+11.35		+10.91				

tends to be characteristic. Moreover, for California member banks, it is the inverse of that found to hold between ratios of net earnings and ratios of demand deposits (Table 29)—a most probable relation for these banks on the average (but not necessarily for them individually or by groups), inasmuch as together demand and time deposits equal the earning assets. For individual banks, or for groups by dispersion classes, this equality is not required. Accordingly, the inverse relation by such classes makes more certain the conclusion already reached that when demand deposits are relatively high (low), net earnings are relatively high (low).

An inverse relation between ratios of net earnings and ratios of time deposits, found to be characteristic of California member banks, does not obtain between ratios of total expense and ratios of time deposits for the same institutions. Indeed, the association is moderately positive.[1] When ratios of time deposits are high, those of total expense are high; when they are low, total expense ratios are also high except for banks with lowest time deposits. If the net effect of relatively high time deposits is to make total expenses relatively high, net earnings ratios will tend to be low unless gross earnings ratios tend also to be high. But the results for California member banks are that the association between gross earnings and time deposit ratios tends to be negative rather than positive.[2] That is if time deposit ratios are high (low), gross earnings ratios tend to be low (high). Accordingly, the association between net earnings ratios and those of time deposits will tend to be negative. This fact for net earnings is shown in detail on Table 34. For the three series—gross earnings, total expense, and net earnings—summaries are given in part "B" of Table 30.

The relations found to obtain between ratios of gross earnings, of total expense, and of net earnings and ratios of demand deposits and of time deposits to earning assets for national banks, and for California members, may be summarized as follows:

When ratios of demand deposits to earning assets are relatively high (low), ratios of

gross earnings to earning assets are high (low);

---

[1] See Appendix, page 441.

[2] See Appendix, page 440.

total expense to earning assets are high (low);
net earnings to earning assets are high (low).

When ratios of time deposits to earning assets are relatively high (low), ratios of
gross earnings to earning assets are low (high), or indefinitely associated;
total expense to earning assets are high (low), or indefinitely associated;
net earnings to earning assets are low (high).

The end-result most likely to be associated with relatively high demand deposits is high net earnings; with low demand deposits, low net earnings; with high time deposits, low, and with low time deposits high net earnings.

Relatively high and low ratios of demand deposits, of time deposits, and so on, as used above, refer to the amounts relative to some appropriate average levels. This has been made clear at various places, the base amounts from which the differences are taken having been specified for the various series. But ratios may be high or low in another sense, as for instance when compared one year with another. For national banks, percentage increases and decreases from year to year for different bank series have been calculated, the amounts paired, and correlations between such series determined. Having done this for the ratios treated in this chapter, it is found that

When ratios of demand deposits to earning assets increase (decrease), ratios of
gross earnings to earning assets increase (decrease);
total expense to earning assets increase (decrease);
net earnings to earning assets increase (decrease).

When ratios of time deposits to earning assets increase (decrease), ratios of
gross earnings to earning assets decrease (increase);
total expense to earning assets decrease (increase);
net earnings to earning assets decrease (increase).

Lack of space makes it impossible to insert tables giving the degrees of relations found to obtain.

It is, of course, obvious that factors other than percentage differences from type and percentage changes from year to year in ratios of demand deposits or of time deposits to earning assets account for percentage differences or changes, inverse or direct, in ratios of gross earnings, of total expense, and of net earnings. Some of the other factors have been treated in preceding chapters. Still others will be dealt with in material which follows.

Knowing that the collective bank experience examined shows that ratios of demand deposits to earning assets are positively correlated with ratios of loans and discounts to earning assets, and that net earnings ratios vary directly with each of these series, it is instructive, for the two major bodies of bank data under consideration, to determine the types and amounts of association when variations in the two series—demand deposits and loans and discounts—are treated simultaneously. This is done in Table 35 from which it is found that

Net earnings ratios are highest when both demand deposit and loans and discounts ratios are at the same time relatively high.

Net earnings ratios are lowest when both demand deposit and loans and discounts ratios are at the same time relatively low.

Notice in this connection the signs and amounts in columns 5 and 9 of Table 35. Comparisons should be made vertically and horizontally—vertically to observe comparative amounts in the dependent variable, net earnings, for different conditions in the independent variables; and horizontally, to observe comparative amounts in the dependent variables for given conditions in the independent variables.

Not only are ratios of net earnings but also those of gross earnings and of total expense highest when both demand deposits and loans and discounts ratios are at the same time relatively high. Similarly, all three ratios are lowest when inverse conditions obtain for ratios of both demand deposits and of loans and discounts. Such are the relations for the two bodies of bank data analyzed in Table 35. Indeed, throughout the various comparisons there is substantial uniformity in this material, the cumulative effect of which is to add to the certainty that the tendencies are operative.

There are, however, ways other than that of measuring average percentage differences from type which may be used in determining the response of ratios of net earnings, for instance, to variable conditions in the ratios of series upon which they

TABLE 35

Correlation of Yearly Percentage Differences of Ratios for (1) National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922–1927; and (2) California Member Banks, 1925–1927

(G.E. = Gross Earnings; T.E. = Total Expense; N.E. = Net Earnings; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to Specified Levels*†		Line Number	Sixty-four Cities—All Federal Reserve Districts*				All Member Banks in California†			
Demand Deposits to Earning Assets	Loans and Discounts to Earning Assets		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			No. of Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
				G.E. / E.A.	T.E. / E.A.	N.E. / E.A.		G.E. / E.A.	T.E. / E.A.	N.E. / E.A.
	1		2	3	4	5	6	7	8	9
Above	Average	1	195	+2.17	+1.59	+3.40	290	+4.79	+2.59	+7.38
	Above	2	104	+5.00	+4.29	+6.04	188	+6.60	+3.83	+9.74
	Below	3	91	—1.07	—1.50	+0.38	102	+1.47	—1.86	+3.04
Below	Average	4	189	—0.70	—0.29	—1.88	319	—2.92	—3.76	—6.52
	Above	5	86	+2.15	+2.23	+1.27	137	—0.66	—0.29	—5.18
	Below	6	103	—3.08	—2.39	—4.50	182	—4.62	—6.37	—7.53
Average	Average	7	384	+0.75	+0.67	+0.80	609	+0.76	—1.10	+0.13
	Above	8	190	+3.71	+3.35	+3.88	325	+3.54	+2.09	+3.51
	Below	9	194	—2.14	—1.96	—2.22	284	—2.43	—4.75	—3.73

* Percentage Differences from the Respective City Averages, 1922–1927.

† Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups, 1925–1927.

seem to depend. Averages are markedly affected by extreme cases and may or may not be representative of typical behavior. Knowing this to be the case, account in Table 36 (p. 131) is taken of the proportions of net earnings ratios which are above their respective averages under variable conditions determining other series of data, the analysis being applied to national banks by cities and to member banks in California by volume groups. This table invites attention.

The amounts in columns 2 and 7, respectively, and in line 2 of Table 36 indicate that when ratios of both demand deposits and of loans and discounts to earning assets are above their averages, net earnings ratios are above their means by 6.04 and 9.74 per cent. But, as shown by the amounts in Table 35, columns 3 and 4, and 7 and 8, line 2, ratios of gross earnings and of total expense also are above their respective averages. This is only another way of saying that, for the conditions named, the three ratios tend to vary together. Accordingly, Table 36 takes account also of this fact, provision being made in the captions—columns 3 and 4, and 8 and 9—for distinguishing simultaneously the relative conditions—positive or negative—of the gross earnings and of the total expense ratios. What does this table show about the *proportions* of net earnings ratios which are relatively high or relatively low under these conditions?

1. The proportions which are high are larger when demand deposits and loans and discounts are both relatively high than when they are both relatively low. (Compare in Table 36 the amounts in columns 3 and 4 on line 2 with those in columns 8 and 9 on line 6.)
2. For national banks, the proportions are highest, whatever the condition of demand deposits and of loans and discounts may be, when both gross earnings and total expense ratios are relatively high. (Compare by lines in Table 36 the amounts in columns 3, 4, and 5.)
3. For national banks, net earnings ratios are least commonly relatively high, whatever the conditions of demand deposits and of loans and discounts may be, when ratios of both gross earnings and of total expense are relatively low. (Compare by lines in Table 36 the amounts in column 4 with those in columns 3 and 5.)
4. For California member banks, it tends to be the rule, although not exclusively so, that ratios of net earnings are most commonly high, whatever the conditions of demand deposits and of loans and discounts ratios may be, when ratios of gross earnings and of total expense are relatively low. (Compare by lines in Table 36 the amounts in column 9 with those in columns 8 and 10.)[1]

It is difficult, without repeating much of what has been said, briefly to summarize the interrelations of ratios of demand deposits and ratios of gross earnings, of total expense, and of net earnings to earning assets. If the results already presented summarizing past experience may be used as a basis for formulating future bank policy, then it is clear that management should

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[1] The lack of agreement between the two bodies of bank data, relative to the proportions of net earnings ratios being above their averages when gross earnings and total expense ratios are both above or both below their respective averages, is probably due to the fact that the type amounts in the two bodies of material are differently determined. Concerning the relative dependence of net earnings ratios upon ratios of gross earnings and of total expense, considerable is said later.

TABLE 36

NET AVERAGE PERCENTAGE DIFFERENCES AND PROPORTION OF CASES OF NET EARNINGS RATIOS ABOVE THEIR AVERAGES ASSOCIATED WITH VARIABLE RATIOS OF GROSS EARNINGS, OF TOTAL EXPENSE, OF DEMAND DEPOSITS, AND OF LOANS AND DISCOUNTS—NATIONAL BANKS BY CITIES, 1922–1927, AND CALIFORNIA MEMBER BANKS, 1925–1927

(G.E. = Gross Earnings; T.E. = Total Expense; E.A. = Earning Assets)

Independent Variables—Percentage Differences in Ratios Relative to Specified Levels*†		Line Number	Sixty-four Cities—All Federal Reserve Districts					All Member Banks in California				
				Ratios: Net Earnings to Earning Assets					Ratios: Net Earnings to Earning Assets			
					Proportion of Cases Above City Averages					Proportion of Cases Above Volume-Group Averages		
Demand Deposits to Earning Assets	Loans and Discounts to Earning Assets		Number of City Bank-Years	Net Percentage Differences from City Averages	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Above Their Averages*	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Below Their Averages*	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Above or Below Their Averages*	Number of Bank-Years	Net Percentage Differences from Volume-Group Averages	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Above Their Averages†	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Below Their Averages†	$\frac{\text{G.E.}}{\text{E.A.}}$ & $\frac{\text{T.E.}}{\text{E.A.}}$ Above or Below Their Averages†
			1	2	3	4	5	6	7	8	9	10
Above	Average	1	195	+3.40	67.77	31.43	53.33	290	+7.38	51.79	68.37	58.28
	Above	2	104	+6.04	68.85	28.00	58.65	188	+9.74	57.14	70.50	61.18
	Below	3	91	+0.38	65.52	33.33	47.25	102	+3.04	35.73	64.87	52.94
Below	Average	4	189	−1.88	65.15	23.61	39.68	319	−6.52	38.71	36.84	40.44
	Above	5	86	+1.27	67.50	27.27	48.83	137	−5.18	41.67	43.40	41.61
	Below	6	103	−4.50	61.53	14.29	32.04	182	−7.53	35.56	33.33	39.56
Average	Average	7	384	+0.80	66.66	24.53	46.62	609	+0.13	45.86	49.20	48.94
	Above	8	190	+3.88	68.32	27.58	54.20	325	+3.51	51.51	57.90	52.92
	Below	9	194	−2.22	63.63	22.77	39.17	284	−3.73	35.61	41.90	44.36

* Percentage Differences from the Respective City Averages, 1922–1927.

† Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups, 1925–1927.

1. Strive to secure relatively high ratios of demand deposits to earning assets. The results normally expected will be relatively high gross earnings and total expense. But these have the effect, under the conditions named, of producing relatively high net earnings ratios in terms of earning assets.

2. Avoid having relatively high ratios of time deposits to earning assets. Such ratios are normally accompanied by high ratios of total expense to earning assets without ratios of gross earnings to earning assets being sufficiently high to compensate for them. The results are generally low ratios of net earnings.

The foregoing tendencies are those which normally prevail, although there are exceptions to both generalizations for individual institutions. For California banks, there are *no* exceptions, however, for banks by classes, by types, and by areas, all methods of classifying them showing that

Relatively high (low) ratios of net earnings tend to accompany relatively high (low) ratios of demand deposits to earning assets;

and that

Relatively high (low) ratios of net earnings tend to accompany relatively low (high) ratios of time deposits to earning assets.

CHAPTER VI

RATIOS OF DEMAND AND OF TIME DEPOSITS TO TOTAL DEPOSITS

National banks in sixty-four Central Reserve, Reserve, and Other Reserve cities have, on the average for the years 1922–1927, 68.52 per cent of their total deposits in the form of demand items. The corresponding percentage for these banks in the eight cities in the Twelfth District is 65.18; and for San Francisco, Los Angeles, and Oakland, combined, 71.05. In each year of this period, the average ratio for the cities in the Twelfth District is lower than that for the sixty-four cities. It is also lower, except in 1927, than that for the three cities in California. On the other hand, the ratios for the three California cities, except for 1927, are higher than for the cities the country over. For the years for which data are available, the average ratios are as follows:

Classes of Banks	Ratios: Demand Deposits to Total Deposits	
	1922–1927	1925–1927
National Banks: 64 cities	68.52	66.32
National Banks: 8 cities, Twelfth District	65.18	62.49
National Banks: San Francisco, Los Angeles, and Oakland	71.05	66.39
All Member Banks: California	.....	62.50

It is apparent from this summary that member banks in California and national banks in the Twelfth District cities have relatively low ratios. Attention in detail is later given to the ratios for member banks in California. It is of interest further to contrast the levels for national banks by cities in the Twelfth District and those for the country generally. This is done below by indicating the proportion of the city ratios, for the combined years 1922–1927, which, for the two groups of data, fall within the limits specified.

Ratios: Demand Deposits to Total Deposits Percentage Groups	Percentage of Cases	
	United States (64 cities)	Twelfth District (8 cities)
Under 60.00	26.82	29.17
60.00 to 70.00	25.00	27.08
70.00 to 80.00	26.30	31.25
80.00 and Over	21.88	12.50

Low ratios are relatively most common, and high ratios relatively least common in the cities in the Twelfth District.

For the years 1925 to 1927, combined, member banks in California when taken as a whole have approximately $100 of total deposits for each $100 of earning assets. Similarly considered, their average ratio of demand deposits to earning assets is 62.36. Accordingly, their average ratio of demand deposits to total deposits should equal the same amount. It actually is 62.50. But differences for banks by type, years, and location characterize each of these ratios, thus making it desirable, so far as is possible, to analyze them in detail.

For the combined and for each of the years 1925 to 1927, state banks with branches have the lowest, and national unit banks have the highest average ratios of demand deposits to total deposits. The actual ratios for the combined years are as follows:

Types of Banks	Ratios: Demand Deposits to Total Deposits
Average	62.50
National Unit	65.10
State Unit	50.60
National Banks with Branches	57.01
State Banks with Branches	38.04

Relations similar to but not identical with these are found for ratios of demand deposits to earning assets. On the other hand, conditions are different for ratios of total deposits to earning assets, the state banks with branches having the highest and national unit banks the lowest ratios.

When all member banks in California are classified by size—as measured by average earning assets for the years 1925 to 1927—it is found that the larger the bank the smaller the ratios of demand deposits to total deposits. This condition holds not only for the combined but also for each of the years. The highest ratio, 68.27 for 1925, characterizes banks with earning assets of less than one million; the lowest, 52.31 for 1926, those with earning assets of three million and over. The ratios in detail are shown on the opposite page. It will be observed that the differences are consistent for the several years. Moreover, when the combined years are considered they tend to persist for banks of different types.

Amount of Earning Assets (Average 1925–1927)	Ratios: Demand Deposits to Total Deposits			
	All Years	1925	1926	1927
Average	63	64	62	61
Under $1,000,000	67	68	67	65
$1,000,000 to $3,000,000	58	60	59	55
$3,000,000 and Over	54	55	52	54

Differences also characterize banks located in cities when classified by size. The rule, established in the detail below, is as follows: the larger the city, the smaller the average percentage. To this generalization for all banks considered as a whole, there are no exceptions, as is evident from the summary below:

Size of City (1920) in Which Located	Ratios: Demand Deposits to Total Deposits			
	All Years	1925	1926	1927
Average	63	64	62	61
Under 2,500	65	67	66	63
2,500 to 15,000	62	63	61	61
15,000 and Over	59	60	58	57

This relationship, however, does not hold for banks of different type. In this particular, conditions are different from those obtaining for ratios of total deposits to earning assets,[1] and from those for national unit banks in the case of demand deposits to earning assets.[2]

Differences, moreover, characterize the ratios of banks in different major sections of the state. The amounts in Chart 24 (p. 137) show that in proceeding from the north to the south, the ratios for the separate and the combined years increase consistently, reaching a maximum in Zone IV, beyond which they decrease. Between the largest and the smallest amount for the three years combined, there is a difference of 21 points, or 42 per cent. Moreover, similar differences obtain for each year.

If the areas outlined in Chart 24 are enlarged, ratios for distinctive parts of the state are as follows:

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[1] Page 58.

[2] Page 95.

Zones	Ratios: Demand Deposits to Total Deposits
I and II	56
III and IV	65
V and VI	66

The distributions of the ratios by zones differ. The most common ratios for Zones I and II, combined, fall in the group, "Under 45.00"; those most common for Zones III and IV, combined, in the group "45.00 to 55.00"; those for Zones V and VI, combined, are equally common in the groups "55.00 to 65.00," and "65.00 to 75.00." Northern California—Zones I to IV—has an average ratio of 59.47; Southern California—Zones V and VI—one of 65.87. The ratios most common in the former area fall in the group, "Under 45.00"; those for the latter, as has been noted, are equally common in the groups "55.00 to 65.00"; and "65.00 to 75.00." It will be seen, by comparing these ratios and those for demand deposits to earning assets, that the variations geographically are of the same order.

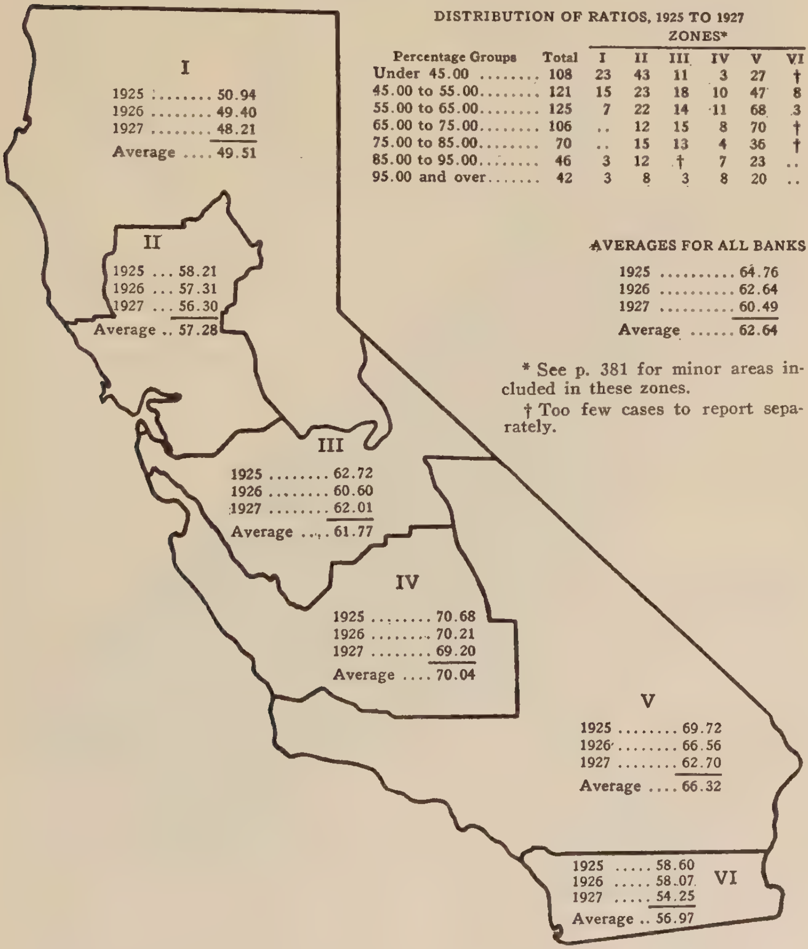
A method of illustrating the ratios geographically, which is different from that used in Chart 24, is presented in Chart 25 (p. 138), in which, by a system of shading and cross-hatching, parts of the state, according to 22 areas, having the same class ratios, are marked in a distinctive manner. It will be seen that variation in the ratios is found in all parts of the state, those which in Chart 24 are relatively low or high being no exceptions to the rule. How different the ratios are within one part of the state is illustrated on page 139 for Riverside, Orange, and Los Angeles counties, which on Chart 25 have the same class ratio. It will be noted (1) that the ratios range from "Less than 55.00" to "85.00 and Over," and (2) that by the size of the city, the average amounts vary from 72.43 to 63.42. With a single exception, the ratios for the three counties combined decrease as the sizes of the cities increase. Moreover, for all city sizes, those which are most common fall in the group, "55.00 to 75.00," the center of which is somewhat higher than the average ratio for the state as a whole but lower than the average for all member banks in Zone V. It will be noted that this zone, outside of the counties named above, is markedly rural—an area of small banks (high ratios) and of small towns (high ratios).

Summarizing briefly what has been said concerning ratios of

CHART 24

Average Ratios of Demand Deposits to Total Deposits, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES*					
		I	II	III	IV	V	VI
Under 45.00	108	23	43	11	3	27	†
45.00 to 55.00	121	15	23	18	10	47	8
55.00 to 65.00	125	7	22	14	11	68	3
65.00 to 75.00	106	..	12	15	8	70	†
75.00 to 85.00	70	..	15	13	4	36	†
85.00 to 95.00	46	3	12	†	7	23	..
95.00 and over	42	3	8	3	8	20	..

AVERAGES FOR ALL BANKS

1925	64.76
1926	62.64
1927	60.49
Average	62.64

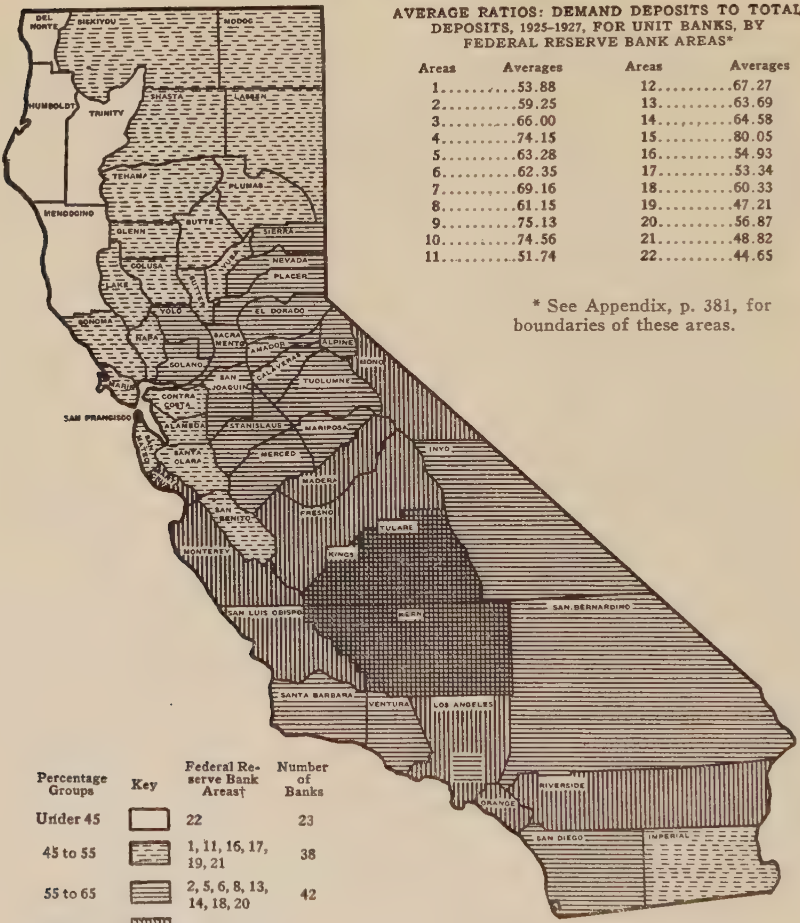
* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

demand deposits to total deposits, the following relationships obtain: (1) as compared with the city ratios for national banks for the country as a whole for the years 1922–1927, the average for the cities in the Twelfth District is relatively low; (2) for all members in California for 1925 to 1927, the average is the same

CHART 25

Regions of California Having Unit Banks with Classified Average Ratios of Demand Deposits to Total Deposits, 1925 to 1927



AVERAGE RATIOS: DEMAND DEPOSITS TO TOTAL DEPOSITS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	53.88	12	67.27
2	59.25	13	63.69
3	66.00	14	64.58
4	74.15	15	80.05
5	63.28	16	54.93
6	62.35	17	53.34
7	69.16	18	60.33
8	61.15	19	47.21
9	75.13	20	56.87
10	74.56	21	48.82
11	51.74	22	44.65

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas†	Number of Banks
Under 45	□	22	23
45 to 55	▤	1, 11, 16, 17, 19, 21	38
55 to 65	☰	2, 5, 6, 8, 13, 14, 18, 20	42
65 to 75	▥	3, 4, 7, 10, 12	30
75 and over	▦	9, 15	51

† See p. 381.

as that for national banks in the eight cities in the Twelfth District; (3) for California member banks the average ratio is lowest for state banks with branches and highest for national unit banks; (4) in this state the ratios decrease as the size of banks and as the sizes of the cities in which they are located increase; and (5) the ratios are relatively low in the northern part of the state, tending to increase as one proceeds from north to south. These generalizations, while for the most part based upon the combined years, tend to obtain for each of the separate years for which data are available.

RATIOS: DEMAND DEPOSITS TO TOTAL DEPOSITS	POPULATION OF CITIES (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	65	36	13	6*	4*	6*
Under 55.00	8	3	.....†	.....	.....	.....
55.00 to 65.00.......	18	9	4	.....	.....	.....
65.00 to 75.00......	16	10	3	.....	.....	.....
75.00 to 85.00......	11	8	.....†	.....	.....	.....
85.00 and Over......	12	6	3	.....	.....	.....
Riverside County ...	74.15	75.91	.....†	68.16	.....	.....
Orange County	67.17	61.33	72.63	.....†	.....	.....
Los Angeles County	71.04‡	74.09	69.95	63.18	63.42	64.34
Average	70.40	72.43	70.59	68.59	63.42	64.34

* Too few cases to distribute.
† Too few banks to report separately.
‡ Does not include City of Los Angeles.

From year to year for the periods under review, ratios of demand deposits to total deposits decrease. For national banks in the sixty-four cities the change between 1922 and 1927 is 9 points or 12 per cent—a fall from 73 to 64 per cent. For those in the cities in the Twelfth District, it is from 69 to 58—a decrease of 11 points, or 16 per cent. For national banks in the three California cities, the averages decrease from 77 to 54, that is, by 23 points, or 30 per cent. Similar changes occur in the ratios of member banks in California. In the period 1925 to 1927, it is three as against four points for national banks in the sixty-four cities, and as compared to seven points for those in the Twelfth District.

These changes need to be studied further. For the sixty-four cities, 320 changes in the ratios occur between 1922 and 1927. Of these, 215, or 68 per cent, are downward, and 105, or 32 per cent, upward. For national banks in the Twelfth District, 70 per cent of the ratios decrease and 30 per cent increase. The average net change per ratio per year for the first group is a decrease of 1.65 points; that for the second group, a decrease of 2.16 points.

The year-to-year changes for national bank ratios in the sixty-four cities are presented in Table 37 and Chart 26. The inclinations of the lines in the chart, showing the direction of change, refer to the thirty-two lowest and to the thirty-two highest ratios, as determined by the amounts in 1922, the ratios in the same cities being averaged each year. Their comparative positions on the scale opposite the respective years show the amounts of change. It is evident that for both groups the changes are downward. It is also clear that the amounts are greatest for the ratios which in the initial year, 1922, are relatively high. Observe also that the lines do not cross, and that from year to year, except as between 1925 and 1926, the directions of changes in the high and in the low group are the same.

CHART 26

Regression of Ratios of Demand Deposits to Total Deposits for National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927

(Arrayed in 1922—same banks each year)

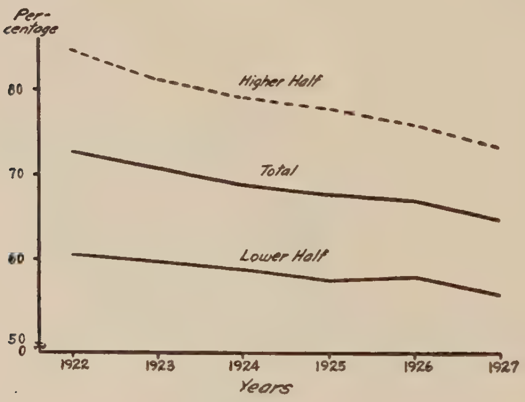


Table 37 gives the amounts of change for non-consecutive years, 1922 and 1923, separately, being selected to determine the positions of the "high" and of the "low" ratios. It is apparent from the details presented that while the directions are the same for

TABLE 37

NET AVERAGE AMOUNTS AND DIRECTIONS OF CHANGE OF "HIGH" AND OF "LOW" RATIOS OF DEMAND DEPOSITS TO TOTAL DEPOSITS FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES

Nature of Array	Positions of City-Ratios	Net Average Increase (+) or Decrease (—)						
		1922 to 1924	1923 to 1925	1924 to 1926	1925 to 1927	1922 to 1925	1923 to 1926	1924 to 1927
In order of size, 1922	Lowest 32	—1.81	—2.44	—0.70	—1.64	—2.95	—2.00	—2.78
	Highest 32	—5.91	—3.35	—3.28	—4.86	—7.11	—5.43	—6.06
In order of size, 1923	Lowest 32	......	—1.87	—0.69	—2.02	......	—2.20	—2.38
	Highest 32	......	—3.92	—3.32	—4.46	......	—5.23	—6.47
Non-arrayed...........		—3.85	—2.90	—1.99	—3.24	—5.03	—3.71	—4.42

the two groups, the amounts of change are different. The ratios which are relatively high fall most, and those which are relatively low fall least.

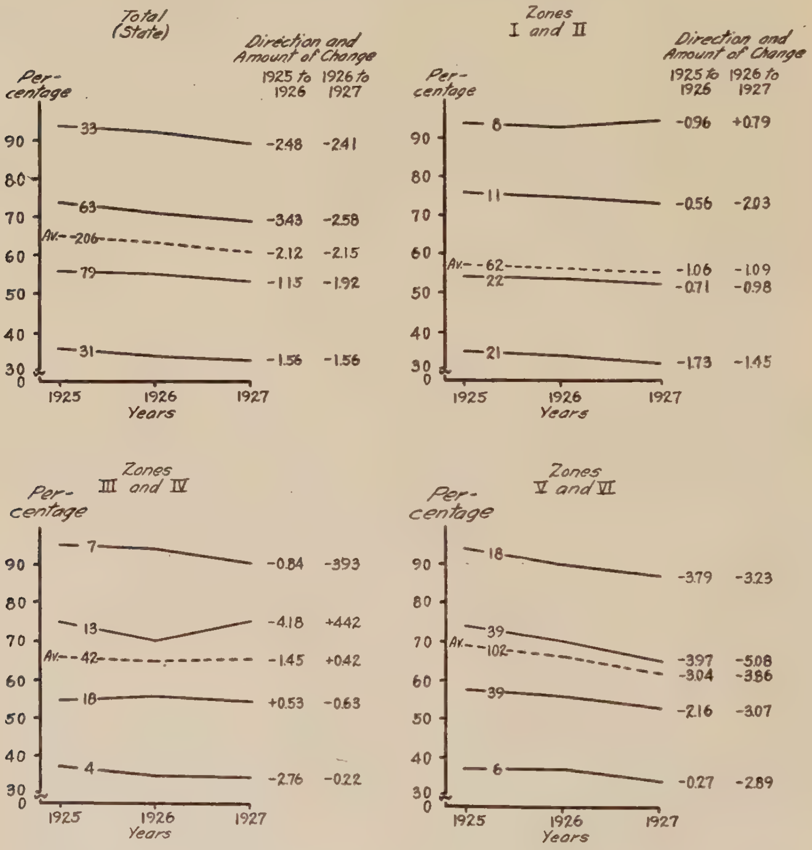
It was observed above that the ratios of demand deposits to total deposits for member banks in California decrease from year to year. This condition obtains for the state as a whole, for each geographical area, and generally for each type and size of institution. For banks reporting all three years, 412 changes take place. Of this total, 275, or 67 per cent, are decreases, and 137, or 33 per cent, increases. Is this downward trend in the state as a whole and in the different regions equally marked for banks which stand, say in 1925, at different levels? Chart 27 (p. 142) answers this question in the negative. If averages are secured each year for the same institutions, the basis of selection being the relative size of their ratios in 1925, it is found that while the general direction of change is downward, the ratios which are relatively low decrease least and those which are relatively high decrease most. This is the same pattern which was observed for the ratios of national banks in the different cities of the country. Not only for the California member banks are the net average changes of the types indicated, but the relative number of changes occurring at the different levels fits into this scheme. When ratios are low, relatively fewer decrease than when they are high. Contrariwise, when they are high, relatively fewer increase than when they are low. These conditions obtain in the face of the fact that at all levels decreases predominate.

It is apparent, therefore, that averages for the banks as a

CHART 27

REGRESSION OF RATIOS OF DEMAND DEPOSITS TO TOTAL DEPOSITS FOR CALIFORNIA MEMBER BANKS, 1925 TO 1927, BY ZONES

(Arrayed in 1925—same banks each year)



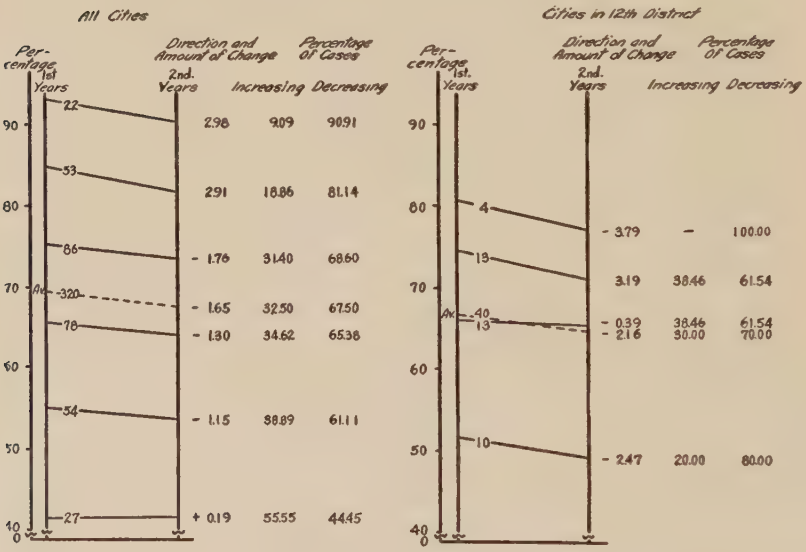
whole and for those in different areas are not truly descriptive of the changes. It is important to know the relative amounts of change characteristic of ratios at different levels, and to appreciate the fact that not only for member banks in California but for national banks the country over regression to type occurs. If forces are at work generally reducing ratios of demand deposits to total deposits, banks having ratios which are relatively high are apparently more affected by them than are banks the ratios of which are relatively low. Moreover, the higher the ratios, the more evident is the effect of the force which is exerted.

In the foregoing statement and illustrations of the changes which take place in ratios of demand deposits to total deposits in member banks in California and in national banks the country over, comparisons are made between ratios in successive years according to their relative levels in an initial year, the same institutions being considered each year. Banks are in a position currently to influence the relation between their demand and their total deposits. Within the limits determined by the state of industry and trade and the competition to which they are subjected, banks will adopt that policy which in the judgment of their officers will tend to improve operating conditions. Data showing end-results of their activities are supplied to the Comptroller of the Currency by national banks and to the Federal Reserve Board by member state banks on call dates, and by us totaled and averaged so as to give comparative statements by years. These yearly amounts and ratios constitute the basic data which when compared record the results of management within the years in question. It is, accordingly, legitimate, when determining the net amounts of and prevailing changes in ratios of demand deposits to total deposits, for instance, for banks or for groups of banks, to compare their positions in successive years according to a re-array each year. Since this procedure is justified for a given pair of years, it may with the same propriety be applied to a series of pairs of years. It has been so applied to the data under review.

Chart 28 (p. 144) gives the average results for all pairs of years, 1922–1927, for the national banks in the sixty-four cities and for the eight cities in the Twelfth District. It will be noticed for the first group, despite the year-to-year downward trend of the averages, that for the lowest ratios the net movement is a rise. For those occupying higher positions it is a fall, the amounts of change at the various levels varying directly with the deviations from type. These changes are of the same order as, but secured by a different method from, those presented in Chart 26 and in Table 37. In Chart 26, measurements according to a given array apply to the same city ratios throughout the entire period; in Chart 28, they pertain to the same cities in successive years, the ratios being re-arrayed each year. In Table 37, they relate to the same city ratios in non-consecutive years according to an array in 1922, and in 1923.

CHART 28

Regression of Ratios of Demand Deposits to Total Deposits from Year to Year for All Pairs of Years, 1922 to 1927, for National Banks in Central Reserve, Reserve, and Other Reserve Cities

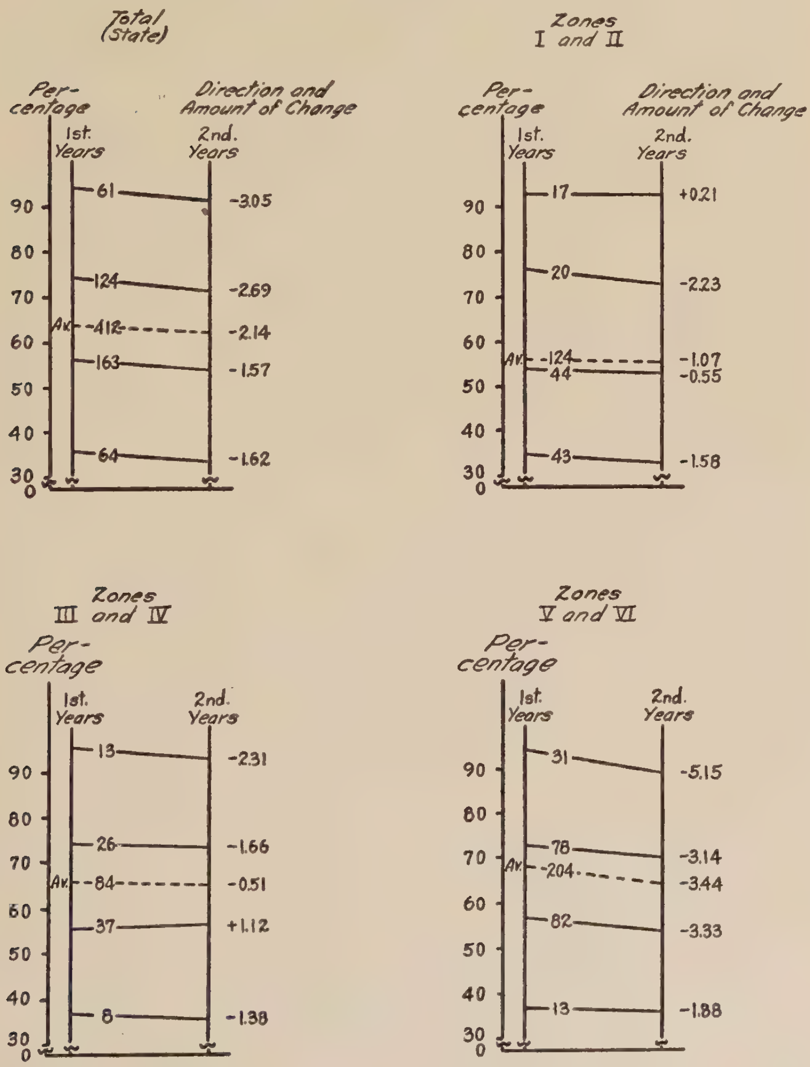


The two parts of Chart 28 show that the changes in the ratios of demand deposits to total deposits for national banks in cities the country over characterize those of like institutions in cities in the Twelfth District. Chart 29, for the two pairs of years between 1925 and 1927, shows that the changes which occur in the member banks in California are of the same order as those which characterize national banks in the Twelfth and in other districts. It also shows that the changes are of the same general type in the several parts of the state.

The evidence relating to a pattern of change is, therefore, cumulative. In the years considered, the downward movement is general, banks playing different parts in it according to the levels which they occupy at a given time. If the ratios are relatively low, they contribute only slight amounts, or even, as in the lower

CHART 29

Regression of Ratios of Demand Deposits to Total Deposits from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



group for the sixty-four cities, move against the trend. If they are high, the decreases exceed the average, the amount of excess varying directly with their deviation from type.

Other things being equal, high ratios of demand deposits to total deposits are desirable. As will be seen later, they are associated with higher ratios of net earnings in terms of earning assets than are low demand deposit ratios. Accordingly, bank management, being conscious of this fact, strives to raise this ratio. But in so doing, difficulties are encountered—difficulties associated with, first, similar efforts on the part of competitors, and, second, economic and trade conditions. During the period under review, such conditions make for successively lower and lower ratios, this being the trend for banks in all parts of the country. Against this trend, individual banks and groups of banks exert such pressure as is within their power. In the give-and-take of competition, those most advantageously situated, that is, those with relatively high ratios, suffer most; those with relatively low ratios are affected least. This is not invariably the case. It is true only on the average; it represents a tendency, the only manner in which forces operating in the economic and business world evidence themselves.

Ratios of time deposits to total deposits are the complements of those of demand deposits to total deposits. Accordingly, they may be secured by subtracting the demand ratios from 100. For instance, if the average ratio of demand deposits to total deposits is 62.50, the corresponding ratio of time deposits is 37.50. Moreover, if in a given case the ratio of demand deposits increases, that of time deposits decreases. It is, accordingly, unnecessary, for ratios of time deposits to total deposits, to duplicate the treatment just presented. So far as the interrelations of banking series are concerned, however, it will be helpful to discuss independently both series of ratios. This is done in the matter which follows.

In the immediately foregoing chapter it was seen that for national banks for the country as a whole, demand deposits, as ratios of earning assets, are interrelated with ratios of gross earnings, of total expense, and of net earnings, it being the rule that when the former are relatively high (low), the latter are similarly high (low). Especial attention was given to the relationship with net earnings. Moreover, it was found that inverse correlation obtains between the expenses and the earnings and the proportions of earning assets represented by time deposits.

In the case of national banks, by cities, total deposits on the average equal 86.32 per cent of earning assets; for California member banks taken as a group, total deposits and earning assets are equal amounts. If in *each* bank or in the banks in each city, the two deposits combined were quantitatively the same as the earning assets, it would be unnecessary to discuss the relationships of demand and of time deposits, in terms of the total of such items, with other banking series. To do this would simply be to repeat, under another caption, what has been said previously concerning such relations when the deposit items, respectively, are expressed in units of earning assets. But they are not the same. It is generally true, however, that when demand deposits to earning assets are relatively high (low), ratios of demand deposits to total deposits are high (low). Moreover, it is necessarily the case —inasmuch as the two separate deposit items constitute the total —that when demand deposits relative to total deposits are high (low), ratios of time deposits to total deposits are low (high). While this is true by the *nature* of the deviations—plus (+) or minus (−)—it is not true that the *percentage* amounts of deviation from their respective averages are the complements of each other. It is these percentage deviations which are studied for the purpose of detecting and measuring the degrees of relationship. Hence, the pertinency of the following pages of this chapter.

Let us begin by asking a question: For national banks generally, for those in the Twelfth District, and for member banks in California, what relationship tends to obtain between variable ratios of demand deposits to total deposits and variable ratios of earnings and of expenses? In other words: When the first ratios are high (low), what are the relative positions of the others—positions in all cases being determined with respect to some appropriate standard?

If ratios of demand deposits to total deposits are positively correlated with ratios of demand deposits to earning assets, then, other things being equal, ratios of gross earnings, of total expense, and of net earnings will be high (low) when ratios of demand deposits to total deposits are high (low).[1] While, for national banks for the country generally and for the California members, the other things are obviously not equal, such lack of equality does not prevent the association from being of the type indicated. This fact is shown by the details in Table 38, the methods by which they are secured being the same as those used elsewhere for similar purposes. For demand deposit ratios deviating positively and for those deviating negatively this table gives the net average deviation of the three dependent series. All three are positively correlated with such ratios. That is, (1) if demand deposits are high (low), the others are high (low); and (2) the higher (lower) the one, the higher (lower) are the others. Observe the type and degree of relationship for the net earnings series—Table 38, columns 6 and 11; and the corresponding frequency surfaces in the Appendix[1]—referring, respectively, to the differences from type for national banks by cities in all districts and to those in eight cities in the Twelfth District. For banks in the first group having demand deposit ratios of 15 or more per cent above their six-year averages, their net average ratio of net earnings to earning assets is 18.15 per cent above their averages; for banks having ratios of demand deposits of 15 or more per cent below their six-year averages, their net average net earnings ratio is 10.96 per cent below the corresponding levels. Similar relationships hold for the national banks in the eight cities in the Twelfth District.

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[1] See pp. 148–149.

But the correlations summarized in Table 38 refer to groups of banks, the data for individual institutions being comprehended in the totals. Are they biased by this fact? Do the same relationships characterize the experience of individual banks? They do. This is apparent from Table 39 (p. 150), section A of which, for California member banks for the years 1925–1927, combined, gives the net percentage differences for the three ratios corresponding to given percentage differences in ratios of demand deposits to total deposits. It is found in this case, too, that when demand deposits relative to total deposits (1) are high (low),[2] ratios of net earnings are high (low); and (2) the higher (lower) the former, the higher (lower) the latter.

[1] Page 442.

[2] "High" and "low" refer to the position of banks relative to the yearly average of the volume group to which they belong. For volume groupings, see p. 374.

TABLE 38

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Differences in Ratios: Demand Deposits to Total Deposits			Sixty-four Cities—All Federal Reserve Districts				Eight Cities—Twelfth Federal Reserve District				
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences			Average Percentage Differences Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences		
	Percentage Groups	Average Percentage		G.E./E.A.	T.E./E.A.	N.E./E.A.			G.E./E.A.	T.E./E.A.	N.E./E.A.
	1	2	3	4	5	6	7	8	9	10	11
Above the Average	Total (Av.)	+ 5.66	197	+ 2.04	+0.87	+ 5.26	+10.27	26	+ 3.54	+ 2.27	+ 7.28
	15.00 and over	+24.19	14	+10.18	+8.08	+18.15	+24.38	7	+12.88	+11.14	+17.95
	10.00–15.00	+12.26	17	+ 8.12	+3.81	+17.53	+12.64	3	+ 7.47	+ 3.06	+21.53
	5.00–10.00	+ 6.78	48	+ 1.89	—0.47	+ 9.00	+ 6.48	6	— 0.32	— 1.25	+ 2.21
	Under 5.00	+ 2.06	118	+ 0.25	+0.14	+ 0.44	+ 1.95	10	— 1.86	— 2.07	— 1.41
Below the Average	Under 5.00	— 2.23	123	— 0.43	+0.40	— 3.52	— 2.37	14	— 1.45	— 0.12	— 5.02
	5.00–10.00	— 7.01	46	+ 0.34	+1.25	— 2.12	— 7.58	5	+ 0.73	+ 0.70	— 0.01
	10.00 and over	—21.44	18	— 4.13	—1.23	—10.96	—24.24	3	— 2.07	— 0.02	— 7.87
	Total (Av.)	— 5.26	187	— 0.60	+0.45	— 3.89	— 6.54	22	— 1.04	+ 0.08	— 4.27

Observe, comparatively, (1) the amounts in column 8, Table 39, and those in columns 6 and 11 of Table 38; and (2) the frequency surfaces in the Appendix.[1] Moreover, compare the amounts in Table 39, just referred to, with those in the same numbered columns in Table 30 of the preceding chapter. There is perfect agreement in signs according to the dispersion classes, and a close parallelism in the average amounts for the bank-differences which are positive and for those which are negative.

For three bodies of data, it is found that

When demand deposits, either in terms of earning assets or of total deposits, are high, ratios of net earnings to earning assets are high;

When demand deposits, either in terms of earning assets or of total deposits, are low, ratios of net earnings to earning assets are low; and

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[1] Pages 443–447.

TABLE 39

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR CALIFORNIA MEMBER BANKS, 1925, 1926, AND 1927, COMBINED

(Percentage Differences from the Respective Yearly Averages for the Respective Volume Groups)

(A)
Ratios: Gross Earnings, Total Expense, and Net Earnings with Demand Deposits to Total Deposits

Independent Variable—Percentage Differences in Ratios: Demand Deposits to Total Deposits			Dependent Variables					
Position	Distance from Averages		Gross Earnings to Earning Assets		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average Percentage	Number	Average %	Number	Average %	Number	Average %
	1	2	3	4	5	6	7	8
Above the Average	Total	Number of Bank-Years	381	.....	369	.....	369	.....
		Independent Variable: Average	...	+25.47	...	+25.68	...	+25.68
		Dependent Variable: Average	...	+ 1.75	...	— 1.64	...	+ 6.41
	40.00 and over	+50.00	93	+ 0.27	92	— 9.13	92	+20.43
	20.00–40.00	+30.00	113	+ 1.02	109	— 2.98	109	+ 6.74
	Under 20.00	+10.00	175	+ 3.00	168	+ 3.33	168	— 1.49
Below the Average	Under 20.00	—10.00	211	+ 2.82	209	+ 3.18	209	— 3.42
	20.00–40.00	—30.00	125	— 1.64	124	+ 0.97	124	—12.50
	40.00 and over	—50.00	82	— 5.49	81	— 2.16	81	—20.31
	Total	Number of Bank-Years	418	.....	414	.....	414	.....
		Dependent Variable: Average	...	— 0.14	...	+ 1.47	...	— 9.44
		Independent Variable: Average	...	—23.18	...	—23.14	...	—23.14

(B)
Ratios: Gross Earnings, Total Expense, and Net Earnings with Time Deposits to Total Deposits

Independent Variable—Percentage Differences in Ratios: Time Deposits to Total Deposits			Dependent Variables					
Position	Distance from Averages		Gross Earnings to Earning Assets		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average Percentage	Number	Average %	Number	Average %	Number	Average %
	9	10	11	12	13	14	15	16
Above the Average	Total	Number of Bank-Years	403	.....	399	.....	399	.....
		Independent Variable: Average	...	+31.32	...	+31.34	...	+31.34
		Dependent Variable: Average	...	— 0.31	...	+ 1.34	...	— 9.84
	40.00 and over	+50.00	154	— 4.09	152	— 1.64	152	—15.99
	20.00–40.00	+30.00	108	+ 0.65	108	+ 3.43	108	—12.78
	Under 20.00	+10.00	141	+ 3.09	139	+ 2.99	139	— 0.83
Below the Average	Under 20.00	—10.00	114	+ 2.37	111	+ 3.29	111	— 1.67
	20.00–40.00	—30.00	100	+ 3.70	95	+ 3.00	95	— 0.16
	40.00 and over	—50.00	160	— 0.06	156	— 7.12	156	+13.27
	Total	Number of Bank-Years	374	.....	362	.....	362	.....
		Dependent Variable: Average	...	+ 1.69	...	— 1.27	...	+ 5.17
		Independent Variable: Average	...	—33.53	...	—33.53	...	—33.53

The higher (lower) the demand deposits, either in
terms of earning assets or of total deposits, the higher (lower) are the ratios of net earnings to earning assets.

The complements of ratios of demand are those of time deposits to total deposits. It was found in the preceding chapter that when time deposits to earning assets are relatively high (low), those of net earnings to earning assets are low (high). On the other hand, under the same conditions, ratios of both gross earnings and of total expense are high (low). That is, in the first case, correlation is negative; in the second, it is positive. How do variable time deposits affect expenses and net earnings relative to gross earnings? It is the purpose of part of the following pages of this chapter to answer this question. Before doing so, however, it is well to supply the basic material which is used and to preface the analysis by a somewhat different approach.

Chart 30 (p. 152) gives the distribution of the six-year averages of ratios of time deposits to total deposits for the national banks in the sixty-four cities. The amounts here distributed, city by city, constitute the "types" from which the yearly ratios are expressed as percentage differences. The distribution of these ratios is graphically illustrated in the center section of Chart 30. It will be seen that the amounts range from "Less than 10" to "50 and Over," the items being normally distributed around their mean, 31.48. It is apparent also that the form of the distribution of the percentage differences will be of this same general type. Actually, it is as illustrated in the right-hand section of Chart 30. This chart, therefore, so far as it is feasible to present details, gives an outline picture of the ratios which are used below as the independent variable with which ratios of net earnings to earning assets and to gross earnings are correlated.

Chart 31 (p. 153) in outline is like Chart 30—it gives in detail the characteristic features of ratios of net earnings to gross earnings, distributions being provided for (1) the six-year averages, (2) the yearly ratios, and (3) the percentage differences. In due time the latter will be used as the dependent variable to be associated with similar differences in ratios of time deposits to total deposits. Preliminary to this analysis, a word of summary is in order respecting the nature of the dependence of net earnings, measured in terms of earning assets, upon ratios of time deposits to total deposits.

CHART 30

DISTRIBUTION OF RATIOS AND OF PERCENTAGE DIFFERENCES OF RATIOS OF TIME DEPOSITS TO TOTAL DEPOSITS FOR NATIONAL BANKS IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

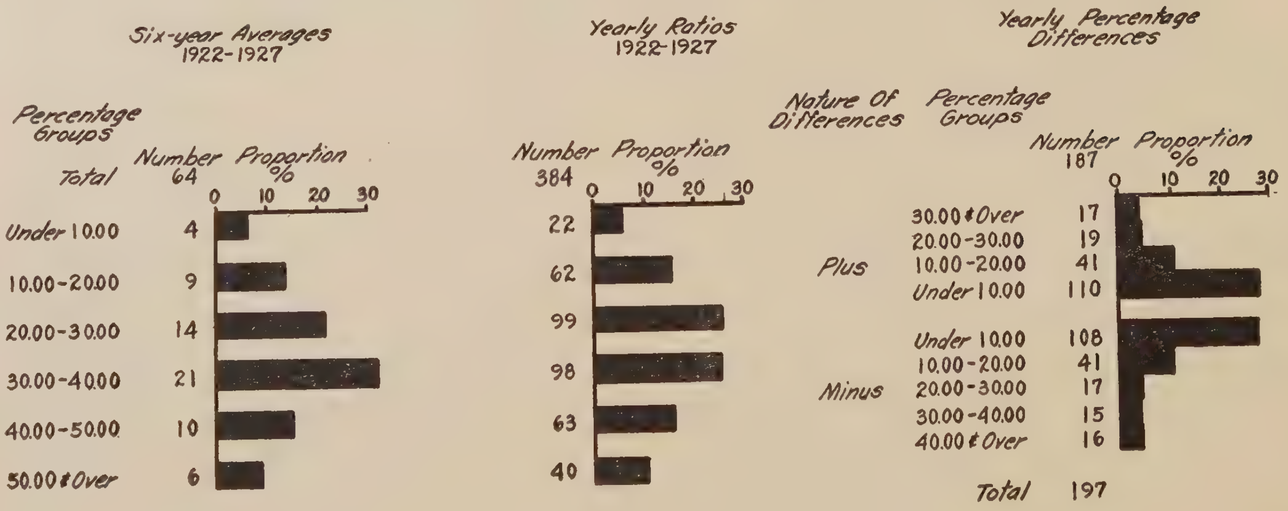
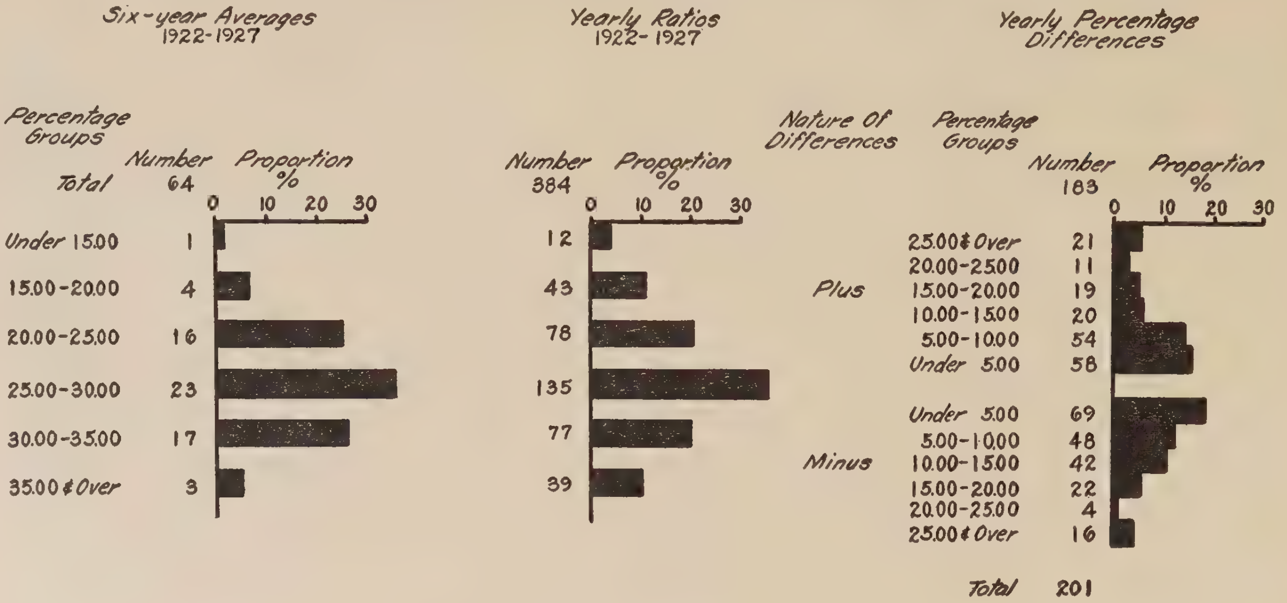


CHART 31

Distribution of Ratios and of Percentage Differences of Ratios of Net Earnings to Gross Earnings for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



In the preceding chapter it was found that when ratios of
time deposits to earning assets are high (low), ratios of net earnings to earning assets are low (high).

It is now found (Table 42, columns 7 and 14) that when ratios
of time deposits to total deposits are high (low), ratios of net earnings are low (high).

The latter fact, on the average, was to be expected; indeed, it follows as a truism because of the relation of the separate deposit items to the total. (See the material presented in Table 38 above, columns 6 and 11.) But it is not necessarily true, by parity of reasoning, that for the dispersion- or difference-classes for ratios of time deposits to total deposits inverse or negative correlation is to be found with ratios of net earnings to earning assets. Yet this is the case, as columns 7 and 14 of Table 42 (p. 158) show. Moreover, the same is true for California member banks, as is shown by comparing the amounts in columns 7 and 14 of Table 42 with those in column 16 of Table 39. But here again, on the average, the latter follows by definition. If ratios of net earnings to earning assets are high (low) when ratios of demand deposits to total deposits are high (low), they are low (high) when ratios of time deposits to total deposits are high (low). (Compare the amounts, for the positive and negative sections, Table 39, columns 8 and 16.)

But with variable ratios of demand or of time deposits to their total or to earning assets, net earnings ratios in terms of gross earnings may not vary in the same manner as they do when expressed in units of earning assets. It tends to be true that the higher (lower) the ratios of time deposits to total deposits, the lower (higher) are those of both gross earnings and of net earnings, and the higher (lower) are those of total expense. Inasmuch as the latter three ratios are all expressed in terms of a common base, earning assets, it follows that

The higher (lower) the ratios of time deposits to total deposits,
the higher (lower) are the ratios of total expense to gross earnings; and

The higher (lower) the ratios of time deposits to total deposits,
the lower (higher) are the ratios of net earnings to gross earnings.

The type and degree of association characterizing the last-named relations are established in detail in the material which immediately follows.

Table 40 (p. 156) shows (1) the frequency surface of the percentage differences of ratios of time deposits to total deposits paired with those of net earnings to gross earnings; (2) the net average percentage differences in ratios of net earnings to gross earnings for given percentage differences in ratios of time deposits—the summary columns at the right; and (3) the net average percentage differences in ratios of time deposits to total deposits for given percentage differences in ratios of net earnings to gross earnings. Observe from the alignment of the frequencies and the summaries that

> When ratios of time deposits to total deposits are high (low), ratios of net earnings to gross earnings are low (high);
>
> When ratios of net earnings to gross earnings are high (low), ratios of time deposits to total deposits are low (high); and
>
> The higher (lower) the ratios of time deposits to total deposits (net earnings to gross earnings), the lower (higher) the ratios of net earnings to gross earnings (time deposits to total deposits).

It follows, therefore, in view of the fact that together net earnings and total expense constitute gross earnings, that

> When ratios of time deposits to total deposits are high (low), ratios of total expense to gross earnings are high (low);
>
> When ratios of total expense to gross earnings are high (low), ratios of time deposits to total deposits are high (low); and
>
> The higher (lower) the ratios of time deposits to total deposits (total expense to gross earnings), the higher (lower) the ratios of total expense to gross earnings (time deposits to total deposits).

The conditions above hold for (1) national banks in the sixty-four cities (Table 40); (2) national banks in eight of these cities located in the Twelfth District (Table 41, p. 157); (3) all California member banks when the deviations are taken from the various yearly averages for all banks, for banks by classes, by size of city of location, by volume of average earning assets (Table 44, p. 161), and by districts or zones of the state. Certain comparisons of the degrees of association for member banks in California are of interest at this point, reference being made to Tables 39 and 44.

TABLE 40

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Total Deposits and Net Earnings to Gross Earnings in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Time Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Gross Earnings (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under – 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over		Ratios: Time Deposits to Total Deposits	Ratios: Net Earnings to Gross Earnings (Net)
Above	30.00 and over	..	..	..	1	3	2	4[sf]	2	1[la]	1	1	2	17	+49.78	— 6.97
the	20.00–30.00	..	..	1	..	..	5	3	6	3	..	1	..	19	+23.78	— 4.58
Aver-	10.00–20.00	..	1	2	2[o]	5	7	7[la]	7	4	3[o]	..	3	41	+14.05	— 3.35
age	Under 10.00	4	3	5	5	12[o]	12	20	13	20	9	..	7	110	+ 4.26	— 3.03
Below	Under 10.00	6	2	5	4	23	13[o]	23[o]	12[la]	9	5	2	4	108	— 4.31	+ 0.14
the	10.00–20.00	5	3	3	2	3	13	5	2	4	1	..	..	41	—13.52	+ 5.68
Aver-	20.00–30.00	2	1[la]	..	..	2[la]	4[o]	4	3	1	..	..	..	17	—24.85	+ 4.45
age	30.00–40.00	1	..	1	4[la]	3	1	2[sf]	3[sf]	..	..	..	..	15	—33.86	+ 6.10
	40.00 and over	3	1	2[sf]	2	3[sf]	1	1	..	..	3[sf]	..	..	16	—53.70	+ 8.39
Total	No. of City Bank-Years	21	11	19	20	54	58	69	48	42	22	4	16	384		
Average Percentage Differences	Ratios: Net Earnings to Gross Earnings	+31.38	+21.79	+17.98	+11.91	+ 7.04	+ 2.33	— 2.41	— 7.33	—12.48	—17.46	—22.37	—37.82			
	Ratios: Time Deposits to Total Deposits (Net)	—15.40	— 9.82	— 7.57	—10.00	— 2.98	— 1.01	+ 0.13	+ 2.94	+ 3.41	— 9.80	+13.62	+12.59			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 41

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TIME DEPOSITS TO TOTAL DEPOSITS AND NET EARNINGS TO GROSS EARNINGS IN NATIONAL BANKS IN EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Time Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Gross Earnings (*Percentage Differences*) — Number of City Bank-Years				Total		
		Above the Average		Below the Average		No. of City Bank-Years	Average Percentage Differences	
Position	Percentage Groups	10.00 and over	Under 10.00	Under 10.00	10.00 and over		Ratios: Time Deposits to Total Deposits	Ratios: Net Earnings to Gross Earnings (Net)
Above the Aver-	20.00 and over	..	..	2^{sf}	1^{la}	3	+42.00	—6.00
	Under 20.00	2^{o}	4^{o}	7^{la}	6^{o}	19	+ 6.54	—2.90
Below the Average	Under 20.00	1	11^{o}	$4^{o\,la}$	1	17	— 7.66	+2.71
	20.00–40.00	2^{la}	$2^{o\,la}$	2^{sf}	..	6	—27.40	+5.74
	40.00 and over	1^{sf}	1^{sf}	..	1^{sf}	3	—47.25	+3.14
Total	No. of City Bank-Years	6	18	15	9	48 48		
Total — Average Percentage Differences	Ratios: Net Earnings to Gross Earning	+18.01	+ 4.85	— 3.68	—13.72			
	Ratios: Time Deposits to Total Deposits (Net)	—15.63	— 8.32	+ 3.14	+ 1.13			

sf San Francisco
o Oakland
la Los Angeles

For banks with ratios of demand deposits to total deposits *above* the average level (Table 39),

the gross earnings to earning assets ratios *exceed* the average by 1.75 per cent;

the total expense to earning assets ratios *are less* than the average by 1.64 per cent;

the net earnings to earning assets ratios *exceed* the average by 6.41.

For banks with ratios of demand deposits to total deposits *below* the average level (Table 39),

the gross earnings to earning assets ratios *are less* than the average by 0.14 per cent;

the total expense to earning assets ratios *exceed* the average by 1.47 per cent; and

TABLE 42

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings)

Independent Variable—Percentage Differences in Ratios: Time Deposits to Total Deposits			Sixty-four Cities—All Federal Reserve Districts						Eight Cities—Twelfth Federal Reserve District						
	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences					Average Percentage Difference Independent Variable	No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Differences				
Position	Percentage Groups	Average Percentage		G.E. / E.A.	T.E. / E.A.	T.E. / G.E.	N.E. / E.A.	N.E. / G.E.			G.E. / E.A.	T.E. / E.A.	T.E. / G.E.	N.E. / E.A.	N.E. / G.E.
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Total (Av.)	+12.53	187	− 0.60	+0.45	+1.21	− 3.89	−3.62	+11.37	22	− 1.04	+ 0.08	+1.16	− 4.27	−3.32
Above	30.00 and over	+49.78	17	− 4.50	−2.10	+2.64	−10.69	−6.97	+42.00	3	− 2.07	− 0.02	+2.13	− 7.87	−6.00
the	20.00–30.00	+23.78	19	− 1.12	+0.89	+2.21	− 5.08	−4.58							
Average	10.00–20.00	+14.05	41	− 0.60	+0.12	+1.17	− 3.53	−3.35	+ 6.54	19	− 0.88	+ 0.10	+1.00	− 3.70	−2.90
	Under 10.00	+ 4.26	110	+ 0.09	+0.89	+0.83	− 2.77	−3.03							
	Under 10.00	− 4.31	108	+ 0.56	+0.48	+0.04	+ 0.93	+0.14	− 7.66	17	+ 0.64	− 0.39	−0.92	+ 3.73	+2.71
Below	10.00–20.00	−13.52	41	+ 2.09	−0.38	−1.85	+ 8.31	+5.68							
the	20.00–30.00	−24.85	17	+ 0.14	−1.36	−1.28	+ 5.18	+4.45	−27.40	6	+ 3.11	+ 1.40	−1.84	+ 8.55	+5.74
Average	30.00–40.00	−33.86	15	+ 4.15	+1.64	−2.50	+10.35	+6.10							
	40.00 and over	−53.70	16	+11.90	+8.34	−4.69	+21.96	+8.39	−47.25	3	+20.82	+19.09	−1.34	+24.90	+3.14
	Total (Av.)	−14.26	197	+ 2.04	+0.87	−1.05	+ 5.26	+2.79	−16.78	26	+ 3.54	+ 2.27	−1.18	+ 7.28	+3.46

the net earnings to earning assets ratios *are less* than the average by 9.44 per cent.

For banks with ratios of time deposits to total deposits *above* the average level (Table 44),

the total expense to gross earnings ratios *exceed* the average by 2.44 per cent;

the net earnings to gross earnings ratios *are less* than the average by 8.28 per cent.

For banks with ratios of time deposits to total deposits *below* the average level (Table 44),

The total expense to gross earnings ratios *are less* than the average by 2.49 per cent;

the net earnings to gross earnings ratios *exceed* the average by 5.72 per cent.

The dependence of ratios of net earnings and of total expense upon variable ratios of demand and of time deposits may now be summarized in the following form, the method of measuring the dependence being to correlate the percentage differences of the respective ratios from type.

Ratios of total expense to earning assets tend to be high (low) when ratios of time deposits to earning assets are high (low) (Table 30); and when

ratios of time deposits to total deposits are high (low) (Table 39).

Ratios of total expense to gross earnings tend to be high (low) when ratios of time deposits to total deposits are high (low) (Table 42).

Ratios of net earnings to earning assets tend to be low (high) when ratios of time deposits to earning assets are high (low) (Table 30); and when

ratios of time deposits to total deposits are high (low) (Tables 39 and 42).

Ratios of net earnings to gross earnings tend to be high (low) when ratios of time deposits to total deposits are low (high) (Table 42).

But earnings and expense ratios depend upon factors other than the composition of the deposits. This fact has been made clear more especially in chapter iv in which, among other things, correlations of such ratios with total deposits, time deposits, and investments, treated simultaneously, were determined.[1] It was

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[1] See Tables 22, 23, and 24.

TABLE 43

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Total Deposits and Net Earnings to Gross Earnings for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages for the Respective Volume Groups)

Ratios: Time Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Gross Earnings (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Time Deposits to Total Deposits	Ratios: Net Earnings to Gross Earnings (Net)
Above the Average	50.00 and over	4	1	4	3	12	12	6	15	14	9	10	20	110	+50.00	—10.86
	40.00–50.00	2	4	3	3	4	8	3	5	4	2	1	3	42		
	30.00–40.00	..	1	1	1	5	4	7	10	7	2	2	6	46	+30.00	—12.69
	20.00–30.00	3	1	3	1	7	8	6	5	10	5	4	9	62		
	10.00–20.00	7	3	2	5	11	7	10	5	5	10	1	5	71	+10.00	— 2.05
	Under 10.00	3	3	6	6	4	8	9	7	5	7	3	7	68		
Below the Average	Under 10.00	7	5	2	10	1	2	3	5	3	5	6	10	59	—10.00	— 2.93
	10.00–20.00	3	4	3	7	3	4	6	5	3	7	..	7	52		
	20.00–30.00	5	1	5	4	6	6	3	4	4	1	6	7	52	—30.00	— 0.89
	30.00–40.00	7	..	3	6	3	7	2	1	2	3	2	7	43		
	40.00–50.00	2	2	1	3	6	2	4	1	4	1	4	2	32	—50.00	+15.89
	50.00 and over	40	5	15	15	10	6	6	7	4	4	6	6	124		
Total	No. of Bank-Years	83	30	48	64	72	74	65	70	65	56	45	89	761 761		
Average Percentage Differences	Ratios: Net Earnings to Gross Earnings	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Time Deposits to Total Deposits (Net)	—20.84		—14.19		+ 5.96		+ 9.37		+11.19		+ 6.12				

TABLE 44

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR CALIFORNIA MEMBER BANKS, 1925–1927—TOTAL EXPENSE AND NET EARNINGS TO GROSS EARNINGS

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Independent Variable—Percentage Differences in Ratios: Time Deposits to Total Deposits			Number of Bank-Years	Dependent Variables—Net Average Percentage Differences	
	Distance from Averages				
Position	Percentage Groups	Average Percentage		Total Expense to Gross Earnings	Net Earnings to Gross Earnings
	1	2	3	4	5
	Total (Average)	+31.34	399	+2.44	— 8.28
Above the Average	40.00 and over	+50.00	152	+3.09	—10.86
	20.00–40.00	+30.00	108	+3.61	—12.69
	Under 20.00	+10.00	139	+0.83	— 2.05
Below the Average	Under 20.00	—10.00	111	+1.30	— 2.93
	20.00–40.00	—30.00	95	—0.58	— 0.89
	40.00 and over	—50.00	156	—6.35	+15.89
	Total (Average)	—33.53	362	—2.49	+ 5.72

observed there that if ratios of time deposits to total deposits are high (low), ratios of investments to earning assets tend to be high (low), and that if investments are high (low), net earnings to earning assets tend to be low (high). If, as is the case, net earnings ratios are negatively correlated with both time deposits and investments when treated separately, inverse correlation is to be expected when they are analyzed together. This is the case as Table 22[1] shows. A word of recapitulation concerning this matter is in point.

When ratios of time deposits to total deposits *and* of investments to earning assets, these ratios themselves being positively correlated, are both *high,* ratios of net earnings to earning assets *are less* than the average by 5.44 per cent;[2] when they are both *low,* net earnings ratios exceed the average by 8.00 per cent.[3] These are the net percentage differences for national banks in the sixty-four cities. For those in the eight cities in the Twelfth District, the respective ratios are as follows: 7.23 per cent below, and 11.63 per cent above.[4] Similar differences are found for the California member institutions.

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[1] Page 87.

[2] Line 23, Table 22.

[3] Line 27, Table 22.

[4] Lines 23 and 27, Table 22.

All that is said above, relative to the dependence of earnings and of expenses upon the composition of the deposits and of the earning assets, follows from an analysis of the correlations of percentage differences from type. Another method of depicting the interrelations is illustrated in Charts 32 to 34, inclusive, in which *average actual ratios* of net earnings and of expenses are determined for banks with variable ratios of time deposits. The results by the use of the two methods are the same. To what basic data is the latter method applied?

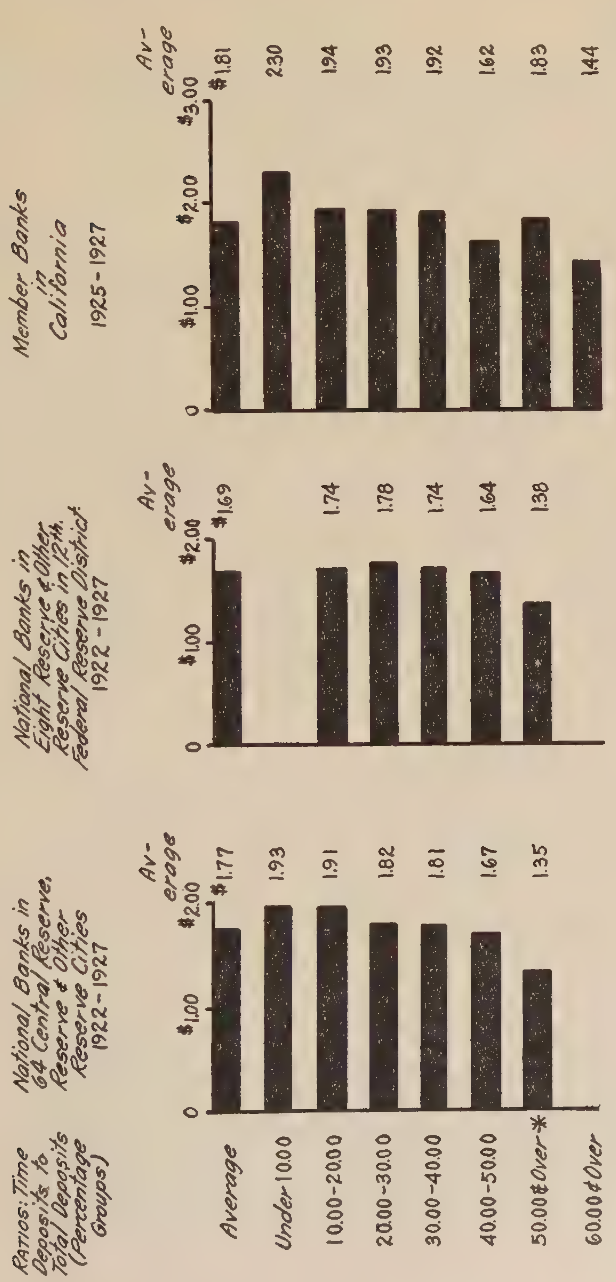
Chart 32 shows the average ratios of net earnings to earning assets in banks having classified amounts of time deposits to total deposits. It is apparent that the lengths of the bars, which are proportionate to the average ratios, decrease in reading from the top to the bottom of the chart, the banks with consecutively larger proportions of their total deposits represented by time items having successively smaller net earnings relative to each $100 of their earning assets. There are two exceptions only to this rule, the order of relationship being the same as that presented above when the association is determined by the use of percentage differences from type.

Chart 33 (p. 164) utilizes the same form of analysis as that employed in Chart 32, the only difference being that, in the former case, the gross earnings dollar is divided into two parts—total expense and net earnings—these parts, shown proportionally, being those for national banks by cities having classified amounts of their total deposits represented by time items. Observe that for the sixty-four cities generally and for eight of them in the Twelfth District, the larger (smaller) the ratios of time deposits to total deposits the larger (smaller) is the proportion of the gross dollar of receipts which is used for operating expense, and, derivatively, the smaller (larger) is the part available as net earnings of operation.

Chart 33, and two sections of Chart 32, refer to national banks by cities. Chart 34 (p. 165), on the other hand, applies to individual member banks, first, those in California, and second, those in the Boston Federal Reserve District, the proportionate parts of gross earnings, represented by total expense and by net earnings, being indicated for banks with classified ratios of time deposits to total deposits. In these two widely separated sections of the country, banks having relatively large (small) time deposits

CHART 32

Net Earnings Received on Each One Hundred Dollars of Earning Assets

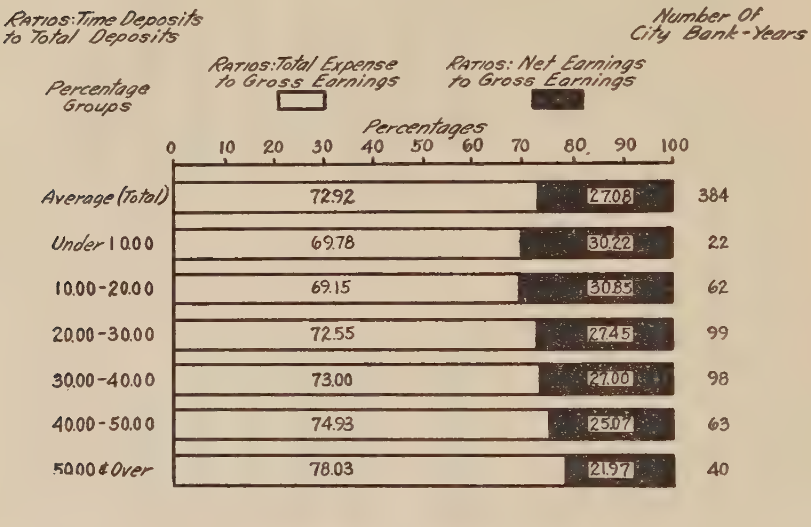


* "50.00 & Over" group is "50.00-60.00" for California Member Banks but is open for National Banks, by cities

CHART 33

Distribution of Gross Earnings in National Banks, by Cities, Having Classified Ratios of Time Deposits to Total Deposits

Sixty-four Central Reserve, Reserve
and Other Reserve Cities
1922-1927



Eight Reserve and Other Reserve Cities
in the Twelfth Federal Reserve District
1922 - 1927

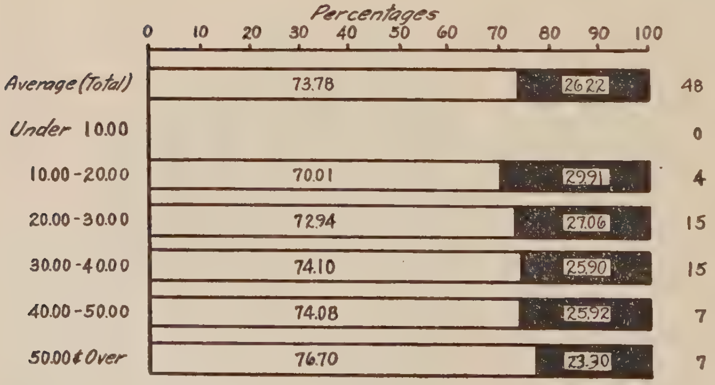
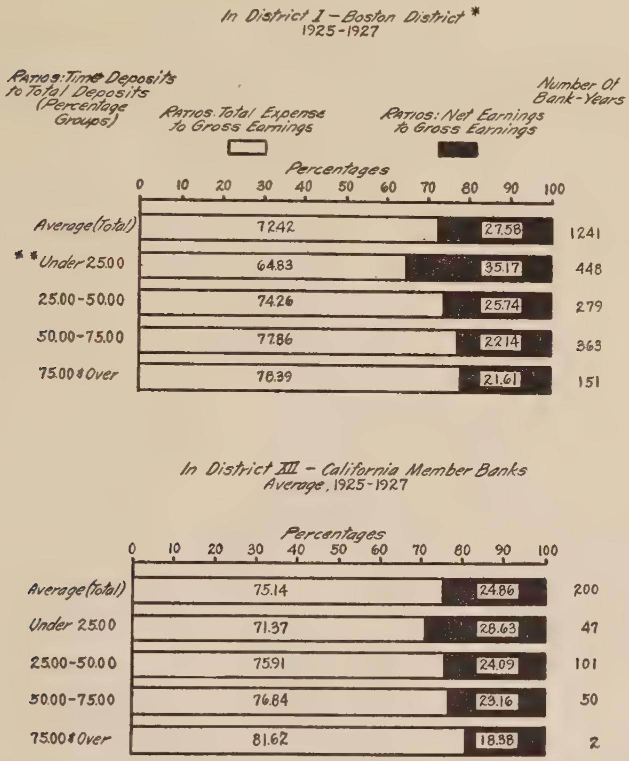


CHART 34

DISTRIBUTION OF GROSS EARNINGS IN MEMBER BANKS OF THE FEDERAL RESERVE SYSTEM HAVING CLASSIFIED RATIOS OF TIME DEPOSITS TO TOTAL DEPOSITS



* Weighted average of yearly "typical" amounts computed from "Operating Costs and Profits" – Federal Reserve Bank of Boston, 1925, 1926, 1927.
* * Including banks with no time deposits.

have relatively large (small) operating expense, and relatively small (large) net earnings in proportion to their gross earnings. This is the rule despite the differences for the two areas in interest rates—the major elements in their gross returns—and an interest on deposits—the principal item in their costs.

The foregoing survey indicates that on the average it is the universal rule among banks, the returns of which are analyzed, that

Net earnings, either in terms of earning assets or of gross earnings, are high (low) when time deposits to total deposits are low (high); and that

Net earnings, either in terms of earning assets or of gross earnings, are low (high) when demand deposits to total deposits are low (high).

Net earnings are the end-results of bank operation, and it is the effect upon them, occasioned by different proportions of the respective deposit items, which may logically be mentioned as a closing word to the discussion in this chapter.

CHAPTER VII

RATIOS OF GROSS EARNINGS TO EARNING ASSETS

The gross earnings of a bank depend upon the amount and composition of, and the rate of return upon, its earning assets. In order to compare the gross returns of separate institutions or groups of institutions, however, it is necessary to express them as percentages. Bases for such percentages may be the combined capital, surplus, and undivided profits or the earning assets. The latter is selected primarily because of interest in the rate received on each unit of business done.

The numerator of the fraction, $\frac{\text{Gross Earnings}}{\text{Earning Assets}}$, as has been indicated, depends, among other things, upon the rate of return received. This rate is principally interest charged on loans and discounts, and dividends received on investments. Out of each dollar of gross earnings, these items combined equal approximately $0.88. That is, together they constitute the primary sources of revenue. It is with them almost exclusively that this part of this study has to do, attention being directed to the differences in the combined amounts obtaining for banks by years, by size, by size of city of location, and by geographical areas. It will be necessary, in order properly to observe such differentials, traceable as they are to a multitude of circumstances, to consider as well as can be done in the light of available material, differences and changes in interest rates—these being the major factors which account for variations in bank ratios of gross earnings to earning assets. Attention is given, first, to conditions in the country as a whole; second, to those in the Twelfth Federal Reserve District; and third, to those in California as a part of this district.

Interest rates charged by banks in the larger cities the country over are fairly represented by the average money rates on prime commercial loans. The rates so charged are graphically shown in Chart 35 (p. 169), the solid line referring to thirty-four Central Reserve, Reserve, and Other Reserve cities, and the dotted line to six of these cities in the Twelfth District. From this chart, two major facts are apparent: First, the trend of the rates in both groups of cities is unmistakably downward, this tendency, however, being retarded subsequent to, say, June 1924. Second, the rates are lower in the thirty-four than they are in the six cities, the differentials being substantially the same throughout the years covered.[1] Other things being equal, therefore, ratios of gross earnings during these years and for the banks in these cities should have decreased. Moreover, other things being again equal, gross earnings ratios should be higher in the six cities in the Twelfth District than are those in the thirty-four cities. Whether or not either of these conditions obtains will in due time be discussed.

In Chart 35, average rates charged by banks on prime commercial loans are contrasted by groups of cities. In both cases, city differences are smoothed out by the use of averages. At a given time, the rates by cities differ, this fact being shown in Chart 36 (p. 170), in the left-hand portion of which the cities are ranked according to the amounts by which their median rates for the years 1922–1927 are in excess of or in defect of the median rate for all the cities for the same years.[2] A geographical basis is evident in this arrangement. Generally speaking, although there are exceptions to the rule—those of Los Angeles and San Francisco being important in this study, and later selected for special attention—the cities having relatively high rates are in the south and west and those having relatively low rates are in the east and central parts of the United States.[3] In general, therefore, Charts 35 and 36 establish the fact that interest rates charged by banks vary geographically—contrasts being made between the rates by cities.

Similar differences between geographical areas obtain in cities of different size, a fact established by the data in Table 45 (p. 171). When the median quarterly rates for the years 1921 to 1927 in cities of different size in the Federal Reserve District of San Francisco are taken as bases, it is found that those in the East are lower, and those in the Southwest higher than are the rates in the Twelfth District. Relative to the city rates in the San Fran-

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[1] In this generalization, no account is taken of month-to-month swings.

[2] The significance of the right-hand portion and its relation to the other part of the chart are commented upon later.

[3] The cities in which Federal Reserve banks are located are in the group having low rates.

CHART 35

Average Monthly Money Rates on Prime Commercial Loans, 1922–1927

(*Federal Reserve Bulletin*)

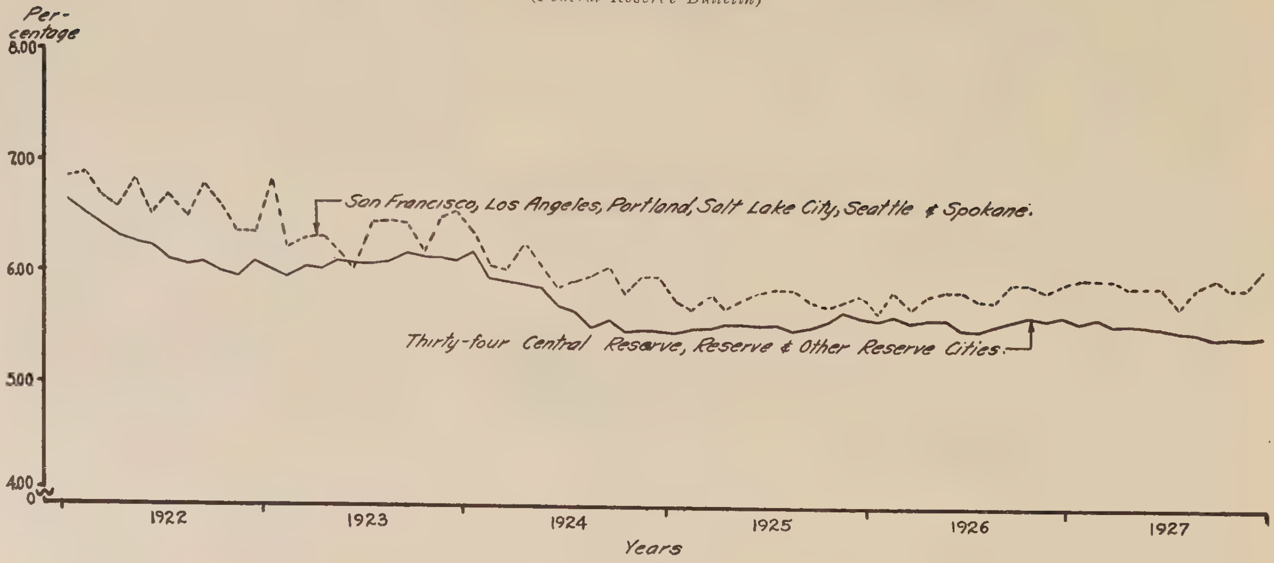
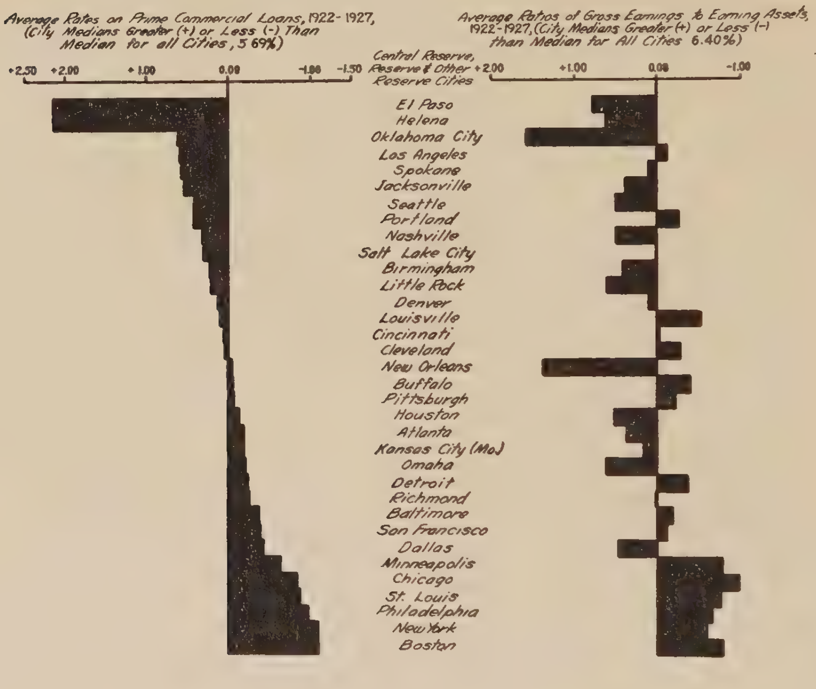


CHART 36

Comparative Average Rates on Prime Commercial Loans and Average Ratios of Gross Earnings to Earning Assets, for National Banks, 1922–1927



cisco district, the rates in the Dallas district are the highest, and those in Boston the lowest.

Not only for cities of the same size do the rates vary geographically but they also vary between cities of different size in the same district. Generally speaking, the rates are relatively low in the large, and relatively high in the small cities. This fact, together with the conclusion that the differentials between city rates are highest in the West and lowest in the East, is apparent from the comparisons presented in Table 46 (p. 171).

The preceding analysis with supporting details appears to establish the following propositions: First, interest rates charged by banks on prime commercial loans tend to decrease during the years 1922–1927. Second, the rates during these years are rela-

TABLE 45

Median Quarterly Differences of Average Rates Charged by Member Banks on Customers' Loans Rediscounted with Federal Reserve Banks, 1921–1927

(*Annual Reports Federal Reserve Board.* Rates San Francisco District Taken as a Base)

Federal Reserve Districts	Cities—Population		
	Under 15,000	15,000–99,999	100,000 and Over
San Francisco*	7.9	7.2	5.6
Boston	—1.9	—1.6	—0.4
New York	—1.9	—1.3	—0.3
Philadelphia	—1.9	—1.2	—0.2
Cleveland	—1.7	—1.2	—0.1
Richmond	—1.5	—1.0	+0.3
Atlanta	—0.1	—0.2	+0.1
Chicago	—0.7	—1.1	—0.6
St. Louis	—0.1	—0.7	—0.6
Minneapolis	+0.8	.....†	+0.1
Kansas City	+0.8	—0.3	+0.8
Dallas	+1.5	+0.5	+0.5

* Actual Median Rate.
† Data incomplete.

tively higher in cities in the Twelfth District than are those in the thirty-four cities in all districts—the differentials being essentially constant. Third, the rates differ geographically, those for cities in the East being among the lowest and those in the West being among the highest. Fourth, the rates for cities of

TABLE 46

Differences in Comparative Median Rates Charged by Member Banks on Customers' Loans Rediscounted with Federal Reserve Banks, 1921–1927

(*Annual Reports Federal Reserve Board*)

Federal Reserve Districts	Comparative Median Rates		
	Those in cities of 15,000 to 99,999 greater (+) or less than (—) those in cities of under 15,000	Those in cities of 100,000 and over greater (+) or less than (—) those in cities of under 15,000	Those in cities of 100,000 and over greater (+) or less than (—) those in cities of 15,000 to 99,999
Boston	—0.4	—0.8	—0.4
New York	—0.2	—0.5	—0.5
Philadelphia	±0.0	—0.5	—0.5
Cleveland	—0.1	—0.6	—0.5
Richmond	—0.2	—0.4	—0.1
Atlanta	—0.8	—1.9	—1.0
Chicago	—1.2	—2.2	—1.1
St. Louis	—1.4	—2.7	—1.3
Minneapolis	—1.6	—2.8	—1.3
Kansas City	—1.7	—2.2	—0.2
Dallas	—1.5	—3.1	—1.6
San Francisco	—0.7	—2.2	—1.4

different size also vary geographically, the differentials being largest for small and smallest for large cities. Fifth, in all districts the highest rates are found in the small and the lowest rates in the large cities, notwithstanding the district differentials, which, as between the East and the West, are particularly noticeable. So much for comparisons relating to the whole country. A somewhat similar analysis of geographical differences with respect to interest rates and gross earnings of banks in different parts of California is presented later.

Having established the fact of geographical variation in interest rates charged by banks, differences in gross earnings are to be expected, in so far as they depend upon such rates. Is there such a dependence? For the thirty-four cities for the country as a whole, data are available which make the study of such dependence possible. In explanation of the data, it should be observed that the interest rates are those which tend to prevail in the selected cities. They purport to be little more than going rates, and assuredly, even for the banks reporting, are not averages of those actually charged during the years in question. The gross earnings ratios are those for national banks in these cities, the amounts being those earned on each $100 of (average) earning assets as of the call dates upon which reports to the Comptroller are submitted. Let it be understood, therefore, that in the following analysis of the dependence of ratios of gross earnings upon interest rates, the former refer to national banks only, and the latter to the rates which tend to prevail on prime commercial loans.

In order to determine the relation between the ratios and the rates, a variety of procedures is available. Comparisons may be made, first, of the amounts themselves; second, of the yearly percentage differences from their respective averages; and, third, of the percentage changes in the two series from year to year. Each of the methods is used. The steps involved in comparing the actual rates and ratios are as follows: (1) Classify the interest rates in convenient groups, as "Under 5.25," "5.25 to 5.75," and so on up to "7.25 and Over." (2) Similarly, classify the gross earnings ratios, the groups running as follows: "Under 5.75," "5.75 to 6.25," and so on up to "8.25 and Over." (3) For each classified group for the interest rates, distribute the cities, irrespective of years, according to the classified ratios of gross earnings. (4) This having been done, the next step involves the

TABLE 47

Correlation in Paired Series: Interest Rates on Prime Commercial Loans and Ratios of Gross Earnings to Earning Assets, for Thirty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

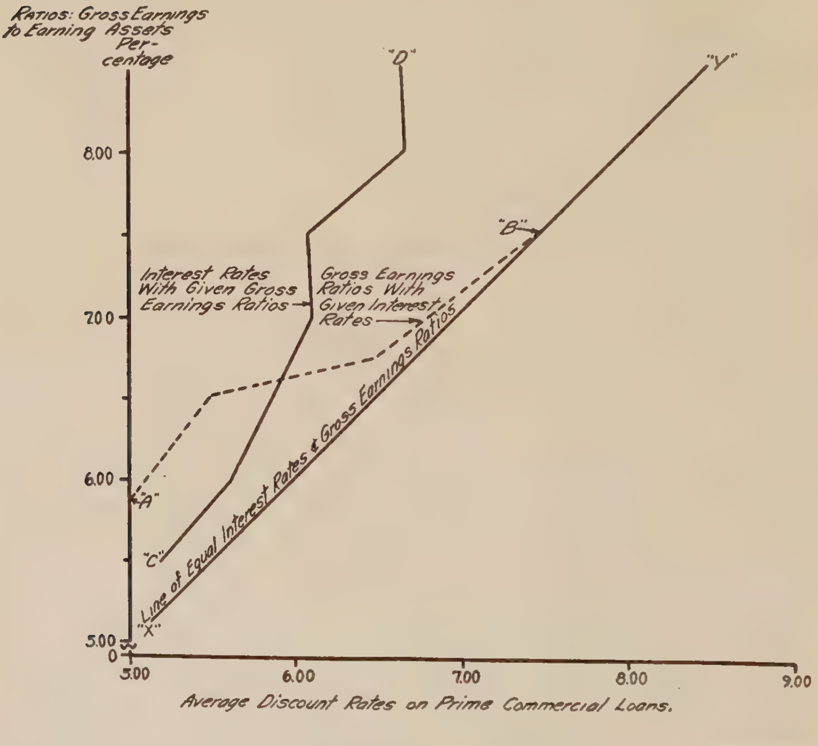
Interest Rates on Prime Commercial Loans		Ratios: Gross Earnings to Earning Assets — Groups: Under 5.75	5.75–6.25	6.25–6.75	6.75–7.25	7.25–7.75	7.75–8.25	8.25–Over	Total: No. of Bank-Years	Total: Average Interest Rates	Total: Average Ratios: Gross Earnings to Earning Assets
Groups	Under 5.25	21	11	6	..	1	..	..	39	5.00	5.85
	5.25–5.75	6	20	25	14	5	2	1	73	5.50	6.51
	5.75–6.25	2	11	20	11	4	1	1	50	6.00	6.61
	6.25–6.75	..	6	6	3	1	2	1	19	6.50	6.74
	6.75–7.25	..	..	3	3	1	1	1	9	7.00	7.16
	7.25 and over	..	..	2	4	2	4	2	14	7.50	7.50
Total	No. of Bank-Years	29	48	62	35	14	10	6	204 204	5.82	6.53
	Average Ratios: Gross Earnings to Earning Assets	5.50	6.00	6.50	7.00	7.50	8.00	8.50	6.53		
	Average Interest Rates	5.17	5.62	5.85	6.10	6.07	6.70	6.67	5.82		

calculation of the average gross earnings ratio for each group-class of interest rates, and the average interest rate for each group-class of gross earnings ratios. Steps 1 to 3 give the frequencies (cities) in the body of Table 47; step 4 supplies the average ratios of gross earnings at the right, and the average interest rates at the bottom of the table. What does the table indicate the relation between the rates and the ratios to be? The distribution of the frequencies shows that cities having low (high) interest rates generally, but not exclusively, have low (high) ratios of gross earnings. It also shows—which is not the same thing—that cities having low (high) gross earnings ratios generally, but not exclusively, have low (high) interest rates. The amounts at the right of Table 47 show that the higher (lower) the average interest rates, the higher (lower) the ratios of gross earnings; those at the bottom indicate that the higher (lower) the ratios of gross earnings, the higher (lower) the interest rates.

The results of carrying out step 4 given above are graphically shown in Chart 37. In this chart the vertical axis represents the gross earnings ratios and the horizontal axis the interest rates. The diagonal line *XY* is so drawn that the interest rates and the gross earnings ratios are identical—that is, this line represents conditions under which the total amount of gross earnings is the same as the interest received. The area to the left and above the diagonal represents conditions when gross earnings exceed interest; that below and to the right indicates conditions (not experienced, and extremely unlikely for banks) when gross earnings

CHART 37

Ratios of Gross Earnings to Earning Assets for Given Interest Rates, and Interest Rates for Given Ratios of Gross Earnings to Earning Assets for Thirty-four Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927, Combined



are less than interest. Line *AB* shows the average ratio of gross earnings corresponding to different interest rates, and line *CD,* the average interest rates corresponding to given amounts of gross earnings. What do these lines signify? Their inclinations indicate the fact that the higher (lower) the interest rate, the higher (lower) the gross earnings, and the higher (lower) the gross earnings, the higher (lower) the interest rate. It will be observed, however, that the lines are inclined differently.

When interest rates are low, line *AB* is far removed from the diagonal *XY,* the position of the former indicating the fact that under such circumstances interest rates make up a relatively small proportion of gross earnings, the balance being secured from other sources. As interest rates increase so do ratios of gross earnings, the latter, however, with successively higher rates tending to approach the rate of interest, this fact being indicated on the chart by the narrowing of the area between the dotted line *AB* and the diagonal line *XY*.

The inclination of line *CD* is different. It shows that with successively higher gross earnings ratios the proportions due to interest rates on loans decrease, the balance being made up from other sources—that is, from dividends on investments, etc. Moreover, when gross earnings ratios are relatively high (observe the space between the upper reaches of line *CD* and the diagonal *XY*), the proportion of them attributable to sources other than interest rates seems to be larger than is the proportion due to such sources when interest rates are comparatively low (observe the space between the lower reaches of line *AB* and the diagonal *XY*).

The principal points which Chart 37 is intended to illustrate are as follows: First, cities having high or low interest rates have high or low gross earnings ratios; and, second, cities having high or low gross earnings ratios have high or low interest rates.

The conclusions just presented refer to the relations between actual amounts of interest rates and ratios of gross earnings. Other methods of study show that (1) when rates of interest for cities relative to their own levels are high or low, ratios of gross earnings for these same cities, relative to their levels, are also high or low; and (2) when interest rates by cities increase or decrease from year to year, gross earnings ratios for the same cities tend to increase or decrease from year to year. That is, interest rates and ratios of gross earnings are positively correlated, measurements applying to actual amounts, differences from type, and year-to-year directions of change.

In the light of the above facts, gross earnings ratios for banks in different parts of the country will now be studied, attention being given to the levels, to the changes from year to year, and to the geographical variations.

The average ratios of gross earnings to earning assets for individual banks and for groups of banks, by classes, during recent years, are given in the summary immediately below.

Classes of Banks	Ratios: Gross Earnings to Earning Assets	
	1922–1927	1925–1927
National Banks: 64 Cities	6.53	6.27
National Banks: 8 Cities, Twelfth District	6.46	6.24
National Banks: San Francisco, Los Angeles, and Oakland	6.03	5.78
All Member Banks: California	....	7.29

It is evident from the averages for national banks that the ratios are lower in the eight cities in the Twelfth District than are those in the sixty-four cities the country over; and that those for the three California cities are lower than are those for the other groups. These conditions obtain for both periods of years. Relative to the levels for the cities in the Twelfth District and for those generally for the country, the gross earnings ratios of California member banks are high. The above amounts, of course, are averages. They take no account of differentials between cities in the respective city-groups nor between banks in the banking groups. Some notion of the variation of the median ratios for thirty-four of the sixty-four cities, relative to the median ratios for these cities combined, is supplied by the right-hand section of Chart 36. For all of the cities in question for the years 1922–1927, the distribution of the ratios is as follows:

Ratios: Gross Earnings to Earning Assets	Percentage of Cases	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 6.25	39.33	37.50
6.25 to 6.75	25.26	35.41
6.75 to 7.25	17.19	16.67
7.25 to 7.75	7.81	6.25
7.75 and Over	10.41	4.17

High ratios are relatively least common, and low ratios relatively most common in the cities in the Twelfth District.

For member banks in California for the years 1925–1927 it is possible to discuss the gross earnings ratios more in detail, distinction being made according to the type, size, and location of the individual institutions. Based upon the entire number of banks reporting, the average ratio is 7.29. That is, on each $100 of earning assets, these banks earn a gross return of $7.29. This ratio, too, is an average from which the amounts for different types of banks vary. For the three years and for each year, the ratios are highest for state unit banks and lowest for national banks with branches. The averages for the several classes of institutions for the combined years are as follows:

Types of Banks	Ratios: Gross Earnings to Earning Assets
Average	7.29
National Unit	7.28
State Unit	7.65
National Banks with Branches	7.05
State Banks with Branches	7.43

Banks of each class, however, differ as to size. If account is taken of this fact, and average ratios are computed for the several size groups, it is found that for all institutions and for each class, the larger the average earning assets, the smaller the gross return earned on each $100 of earning assets. The amounts for the institutions, without respect to class but according to size, are given in the following summary:

Amount of Earning Assets (Average 1925–1927)	Ratios: Gross Earnings to Earning Assets			
	All Years	1925	1926	1927
Average	7.29	7.29	7.27	7.31
Under $1,000,000	7.44	7.41	7.39	7.31
$1,000,000 to $3,000,000	7.22	7.19	7.29	7.17
$3,000,000 and Over	6.88	7.02	6.86	6.97

Not only do the ratios vary for banks according to size, but they also differ according to their location. This fact may be studied with respect to the size of city (1920), and the parts of the state in which the banks are located. When size of city alone is taken into account, it is found that the larger the city the smaller the average ratio. This relationship, presented immediately below for banks irrespective of type, holds not only for the members so treated but also when banking types are differentiated.

Size of City (1920) in Which Located	Ratios: Gross Earnings to Earning Assets			
	All Years	1925	1926	1927
Average	7.29	7.29	7.27	7.31
Under 2,500	7.49	7.43	7.52	7.52
2,500 to 15,000	7.23	7.23	7.18	7.31
15,000 and Over	7.02	7.13	6.99	6.94

Differences of the nature indicated are undoubtedly in part due to the varying sizes of the institutions, inasmuch as the larger banks are located in the larger cities and gross earnings ratios vary inversely with bank size. They are, however, partly attributable, it is believed, to differences in interest rates customarily charged by banks in small and in large cities. For the Twelfth, or San Francisco, District, data illustrating such differentials are available by months and quarters from 1921 to 1927. The customary median rates, and the differences from city size to city size are given in Table 48. It will be seen that the rates vary inversely as the sizes of the cities—low rates being the rule in the large and high rates the rule in the small cities. Moreover, the differences are much the same from period to period. Observe that those in the Twelfth are of the same nature as those in the other Federal Reserve districts (Table 46).

With interest rates higher in the small than in the large cities, gross earnings ratios, other things being equal, should also be higher. This is found to be the case in California despite the fact that, in this state, banks in the small cities tend to have relatively less of their earning assets represented by loans and discounts[1] than do those in large cities.

More significant probably than differences in gross earnings ratios for banks by size of city are those associated with geographical location. City populations change; so likewise do the sizes of banks, both facts, with respect to individual institutions or groups of institutions, tending to disturb the relations just

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[1] See p. 12.

TABLE 48

ACTUAL AND COMPARATIVE MEDIAN RATES CHARGED BY MEMBER BANKS IN THE SAN FRANCISCO DISTRICT ON CUSTOMERS' PAPER REDISCOUNTED WITH FEDERAL RESERVE BANKS, 1921–1927

(*Annual Reports, Federal Reserve Board*)

Year	Month	Average Rates—Cities with Population of			Comparative Average Rates		
		Under 15,000	15,000 to 99,999	100,000 and Over	Col. 3 greater (+) or less than (—) Col. 2	Col. 4 greater (+) or less than (—) Col. 2	Col. 4 greater (+) or less than (—) Col. 3
	1	2	3	4			
1921	December	8.2	7.3	6.1	—0.9	—2.1	—1.2
1922	December	8.0	7.2	5.2	—0.8	—2.8	—2.0
1923	March	8.1	7.5	5.3	—0.6	—2.8	—2.2
	June	8.2	7.6	5.7	—0.6	—2.5	—1.9
	September	8.1	7.1	5.6	—1.0	—2.5	—1.5
	December	8.0	6.2	5.7	—1.8	—2.3	—0.5
1924	March	7.9	6.8	5.6	—1.1	—2.3	—1.2
	June	7.9	7.3	5.7	—0.6	—2.2	—1.6
	September	8.2	7.6	5.9	—0.6	—2.3	—1.7
	December	8.0	...	6.6	.....	—1.4	.....
1925	March	8.0	8.0	5.8	±0.0	—2.2	—2.2
	June	8.0	7.3	6.1	—0.7	—1.9	—1.2
	September	7.1	7.1	6.4	±0.0	—0.7	—0.7
	December	7.6	...	5.5	.....	—2.1	.....
1926	March	7.8	6.4	5.6	—1.4	—2.2	—0.8
	June	7.8	7.1	5.5	—0.7	—2.3	—1.6
	September	7.8	6.6	5.6	—1.2	—2.2	—1.0
	December	7.6	7.0	6.2	—0.6	—1.4	—0.8
1927	March	7.7	7.0	5.5	—0.7	—2.2	—1.5
	June	7.8	7.2	5.9	—0.6	—1.9	—1.3
	September	7.5	7.9	5.5	+0.4	—2.0	—2.4
	December	7.2	7.8	6.5	+0.6	—0.7	—1.3
Median		7.9	7.2	5.6	—0.7	—2.2	—1.4

presented. Geographically, the case is somewhat different. Locations remain fixed, and characteristics associated with them persist. Natural resources, types of industry, population distribution —all of the things which support banking institutions and upon which they depend for business—vary from place to place.

This fact is strikingly the case in California where climatic variation is pronounced, industry and trade are geographically specialized, and population is unevenly distributed. Moreover, parts of the state have only recently been settled (or are now in a process of settlement), industry, trade, and agriculture being essentially in the pioneer stage; other parts are distinctly older, population growth slower, and industry and trade more stabilized. California represents both the old and the new. Generally speaking, it is rural, population for the most part being concentrated at two major centers far removed from each other, both of which are unique. The population of the south is different from that of the north, as are also trade and financial interests and business connections and needs. Physical features divide the state into distinctive zones or areas, differences between which tend to persist. Evidences of the distinctive nature of the areas and zones are found in the levels of interest rates customarily charged by banks and in the gross earnings received by them on each $100 of their earning assets.

Despite the meagerness of the data available relating to interest rates in various parts of the state, differences associated with, if not causally related to, distinctive zones may profitably be studied. The average money rates charged by banks on prime commercial loans in Los Angeles and in San Francisco are given immediately below, the monthly averages being graphically presented in Chart 38.

Years	Average Money Rates on Prime Commercial Loans		
	Los Angeles	San Francisco	Los Angeles Rate Higher than San Francisco Rate
1922	6.12	5.90	.22
1923	6.30	5.65	.65
1924	6.40	5.35	1.05
1925	6.33	5.25	1.08
1926	6.04	5.27	.77
1927	6.21	5.21	1.00
Average	6.23	5.44	.79

It will be observed from the summary by years that for the six-year period the average difference between these interest rate levels is .79 points. From Chart 38 it is apparent that the differentials, except in 1922, obtain monthly. Differences of the sort indicated are persistent and undoubtedly of long standing.[1] There are, however, some reasons for believing that forces are at work which in time will tend to dissipate them. These are probably found, among other things, in the fact that (1) the state as a whole is becoming better industrially organized; (2) manufacturing, trade, and agricultural enterprises are becoming more stabilized; (3) the area is now largely self-sufficient; (4) competitive branch banking, which tends to bring banks in widely

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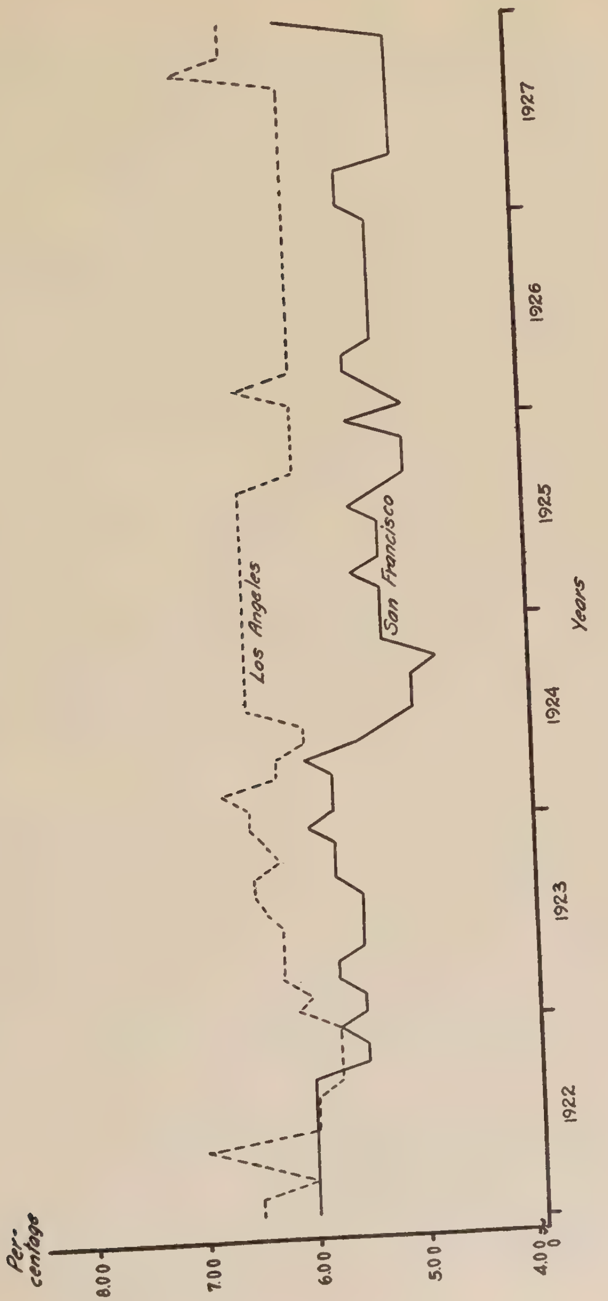
[1] A president of a Los Angeles bank is reported to have said that from his personal knowledge they have existed for the past forty years.

CHART 38

Average Monthly Money Rates on Prime Commercial Loans, 1922–1927

(Federal Reserve Bulletin)



separate areas under unified financial control, has been and now is rapidly developing; and (5) confidence is felt in the future of the industrial and commercial interests of the state, thus tending to reduce elements of risk and uncertainty incident to trade and industry in a pioneer state and in general to equalize rates of interest.

In the foregoing summary and in Chart 38, the interest rates refer (presumably)[1] to banks in the metropolitan centers. If conditions respecting rates of interest by sizes of cities are the same in California as are those in the Twelfth District,[2] rates in smaller centers in the state are somewhat higher than those presented. Support for this conclusion is found in the average rates of interest on loans, $\frac{\text{Loan Earnings}}{\text{Loans}}$, earned by branches of the Bank of Italy in regions contiguous to Los Angeles and to San Francisco.[3] The lowest rate, 6.00 per cent, is for the district made up of San Francisco (city) and San Mateo County. The next lowest rate, 6.55 per cent, is for the city of Los Angeles. From these levels, the rates become successively higher for banks in the rural sections of the state, reaching a maximum of 6.96 per cent in what the Bank of Italy terms the San Diego district.[4] Generally speaking, the rates are higher in the south than in the north, and lower in the Los Angeles and San Francisco districts than in other parts of the state.

The amounts of interest and discount relative to gross earnings received by banks in cities in different parts of the state have a bearing on the subject under discussion. Data of this character for national banks for the years 1922–1927 are available for Los Angeles, San Francisco, and Oakland. These are presented in Chart 39. Here again, regional differences are apparent, the proportion which interest and discount constitutes of each dollar of gross earnings being highest in Los Angeles and lowest in San Francisco. That for Oakland holds a median position through

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[1] The precise manner in which the Federal Reserve Board secures the data presented above is not disclosed.

[2] See Table 48.

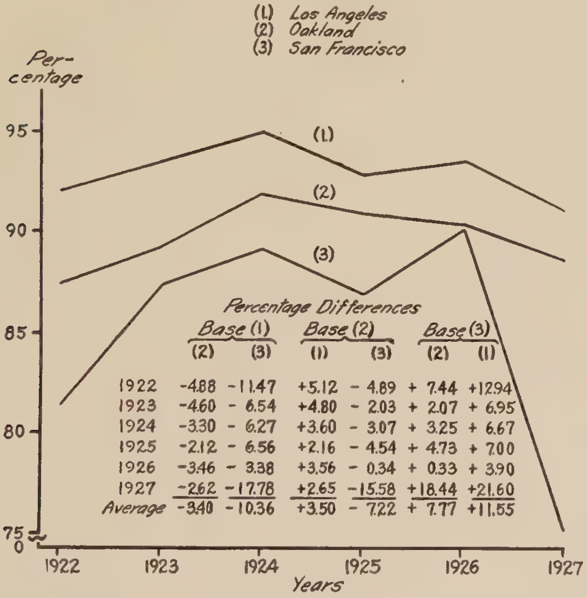
[3] Data supplied by W. L. Vincent, Assistant to the Cashier and Chief Accountant, Bank of Italy.

[4] For the outlines of the respective zones, see Appendix, Chart 97, p. 382.

CHART 39

RATIOS OF INTEREST AND DISCOUNT TO GROSS EARNINGS RECEIVED BY NATIONAL BANKS IN LOS ANGELES, OAKLAND, AND SAN FRANCISCO, CALIFORNIA, 1922–1927

(*Annual Reports of the Comptroller of the Currency*)



Percentage Differences

	Base (1)		Base (2)		Base (3)	
	(2)	(3)	(1)	(3)	(2)	(1)
1922	-4.88	-11.47	+5.12	- 4.89	+ 7.44	+12.94
1923	-4.60	- 6.54	+4.80	- 2.03	+ 2.07	+ 6.95
1924	-3.30	- 6.27	+3.60	- 3.07	+ 3.25	+ 6.67
1925	-2.12	- 6.56	+2.16	- 4.54	+ 4.73	+ 7.00
1926	-3.46	- 3.38	+3.56	- 0.34	+ 0.33	+ 3.90
1927	-2.62	-17.78	+2.65	-15.58	+18.44	+21.60
Average	-3.40	-10.36	+3.50	- 7.22	+ 7.77	+11.55

the entire period. If interest rates are relatively high in Los Angeles, as they are, then, other things being equal, that portion of gross earnings traceable to such items will also be high. Similarly, if they are relatively low in San Francisco, as they are, then, other things being equal, the amounts of gross earnings coming from this source will be relatively low. This is found to be the case.

If interest rates on prime commercial loans, loan earnings on loans, and the proportions of gross earnings represented by interest and discount differ in different parts of the state, so, other things being equal, will gross earnings ratios to earning assets. Such differences are found. There are various ways in which this fact may be shown for banks in California—the results by distinctive areas being dependent in part upon the method which is used.

In the data for member banks supplied for the years 1925, 1926, and 1927, banks are distinguished as to location according to twenty-two areas, the boundaries of which are illustrated in Chart 96 in the Appendix. On the basis of bank distribution, these areas are consolidated into larger zones, the boundaries being those indicated on the California map in the Appendix.[1] Such a method of consolidation gives, as in the case of gross earnings ratios shown on Chart 40, the average amounts earned by banks in these areas. That is, averages are secured for the banks in distinctive and continuous areas, the amounts for individual institutions differing as they will. By this method of securing comparative regional amounts, it is found, as shown in Chart 40, that the ratios for the three years are lowest in Zone II, and highest in Zone VI. Moreover, the average ratio for Zone II, which contains the city of San Francisco, is lower than is that for Zone V, containing Los Angeles, the difference for the three years being .71 (points), or 73.20 per cent of the difference, which is .97 (points), between the average discount rates on prime commercial loans obtaining for these years in the two cities.[2] Moreover, similar differences in the gross earnings ratios obtain each year between the zones containing the two metropolitan centers—the ratios always being lower in the San Francisco region. These differences are further emphasized by comparing the distribution of the ratios for the two zones which may be done from the tabular detail in Chart 40. In Zone II, 76.81 per cent of the banks, during the three years 1925–1927, earn less than 7.25 per cent. In Zone V, the corresponding percentage is 46.05. In Zone II, 23.19 per cent earn 7.25 and over; of those in Zone V, 53.95 per cent earn these amounts on each $100 of earning assets.

So much, in summary, of the differences in gross earnings ratios for all member banks in the minor parts of the state. The variation between larger sections is apparent from the following summary, which is based upon the combined years 1925–1927.

Zones	Ratios: Gross Earnings to Earning Assets
I and II	6.80
III and IV	7.42
V and VI	7.55

Zones	Ratios: Gross Earnings to Earning Assets
I to IV	7.05
V and VI	7.55

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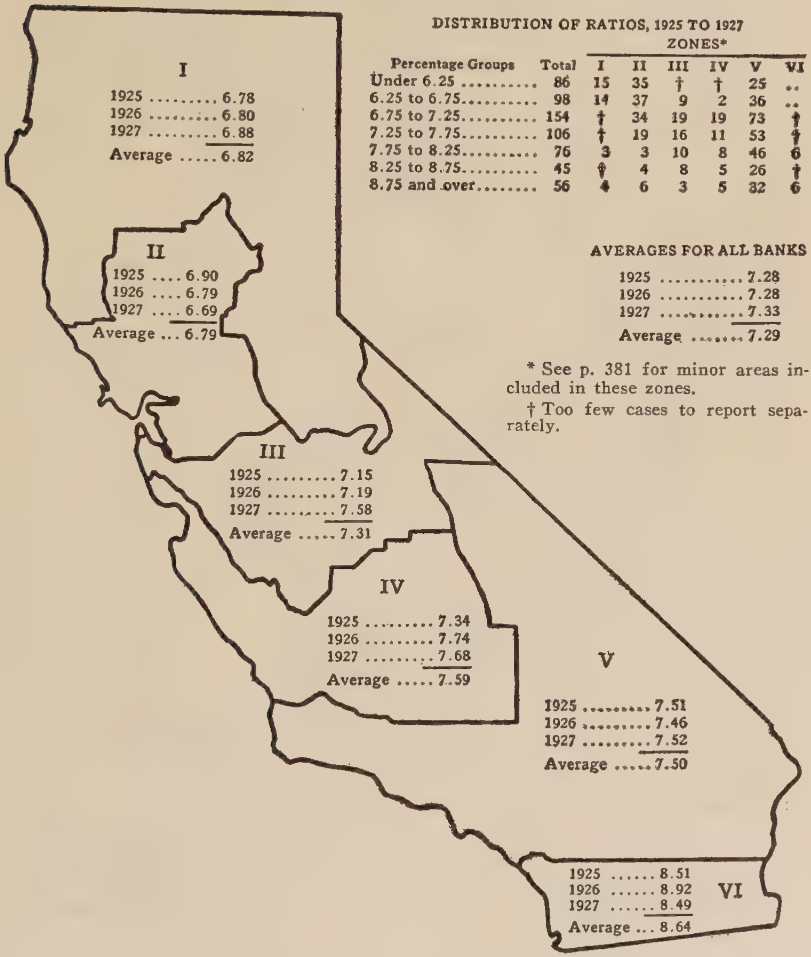
[1] See p. 381.

[2] See Chart 38.

CHART 40

Average Ratios of Gross Earnings to Earning Assets, 1925 to 1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF RATIOS, 1925 TO 1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 6.25	86	15	35	†	†	25	..
6.25 to 6.75..........	98	14	37	9	2	36	..
6.75 to 7.25..........	154	†	34	19	19	73	†
7.25 to 7.75..........	106	†	19	16	11	53	†
7.75 to 8.25..........	76	3	3	10	8	46	6
8.25 to 8.75..........	45	†	4	8	5	26	†
8.75 and over........	56	4	6	3	5	32	6

AVERAGES FOR ALL BANKS

1925 .... 7.28
1926 .... 7.28
1927 .... 7.33
Average 7.29

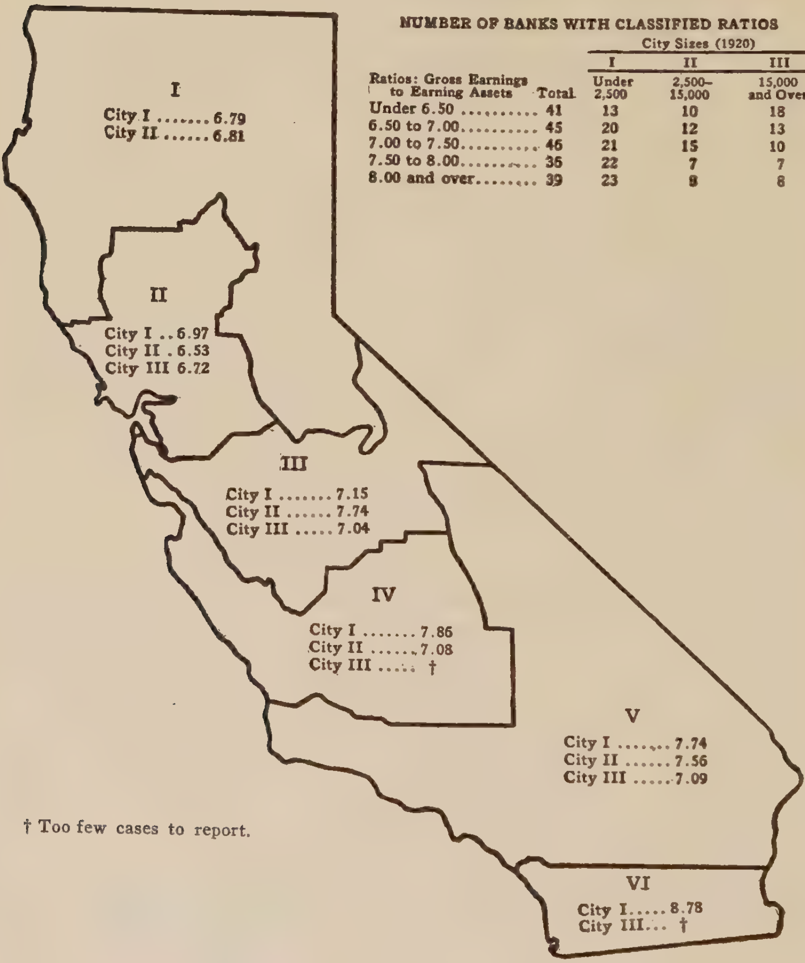
* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

The foregoing summaries of gross earnings ratios for member banks in distinctive sections of California take no account of the sizes of the institutions nor of the city sizes in which they are located—factors according to which variation in the ratios is

CHART 41

Average Ratios of Gross Earnings to Earning Assets for All Member Banks in California, by Zones and Sizes of Cities, 1925 to 1927, Combined



NUMBER OF BANKS WITH CLASSIFIED RATIOS

Ratios: Gross Earnings to Earning Assets	Total	City Sizes (1920) I Under 2,500	II 2,500–15,000	III 15,000 and Over
Under 6.50	41	13	10	18
6.50 to 7.00	45	20	12	13
7.00 to 7.50	46	21	15	10
7.50 to 8.00	36	22	7	7
8.00 and over	39	23	8	8

† Too few cases to report.

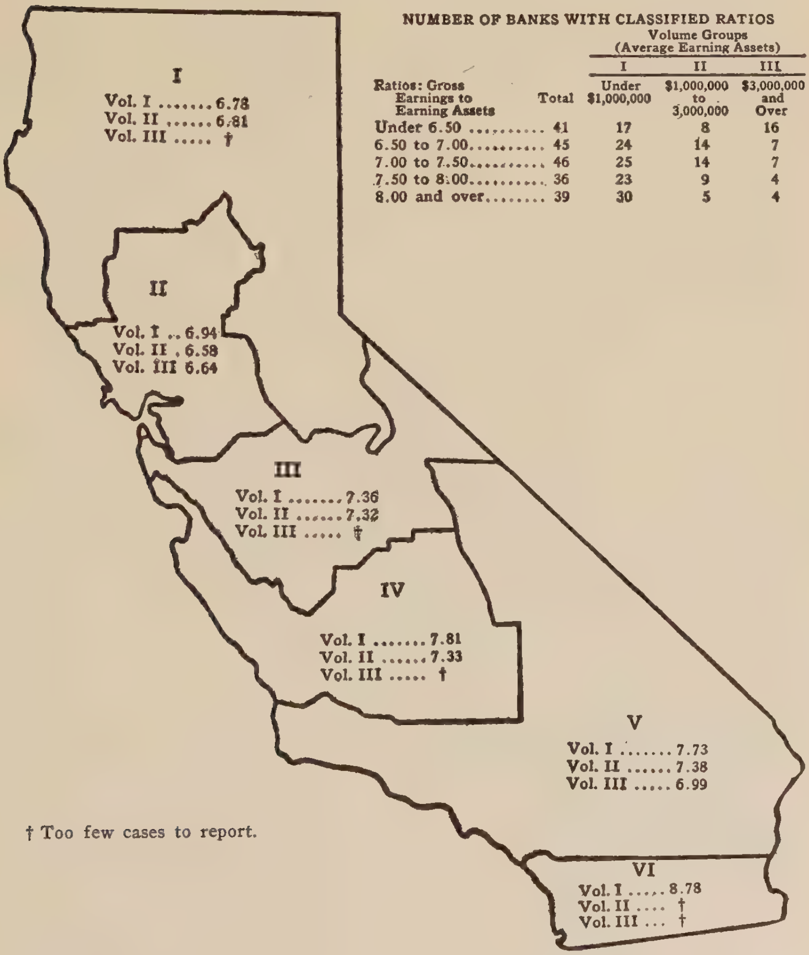
characteristic when the banks in the entire state are considered. Geographical variation obtains for cities of the same size and for banks with the same average amount of earning assets, the first fact being shown in Chart 41 and the second in Chart 42. The features of these charts which are of primary interest relate to the

CHART 42

Average Ratios of Gross Earnings to Earning Assets for All Member Banks in California, by Zones and Volume Groups, 1925 to 1927, Combined

NUMBER OF BANKS WITH CLASSIFIED RATIOS

Ratios: Gross Earnings to Earning Assets	Total	Volume Groups (Average Earning Assets) I Under $1,000,000	II $1,000,000 to 3,000,000	III $3,000,000 and Over
Under 6.50	41	17	8	16
6.50 to 7.00	45	24	14	7
7.00 to 7.50	46	25	14	7
7.50 to 8.00	36	23	9	4
8.00 and over	39	30	5	4



† Too few cases to report.

amounts—both the averages and the frequencies of the classified ratios—for cities of the same size and for banks of the same average earning assets in different parts of the state. Despite the fact that the number of instances is small, when the banks are classified in this manner, differences associated with location seem to be present in the amounts of gross earnings received on each $100 of earning assets.

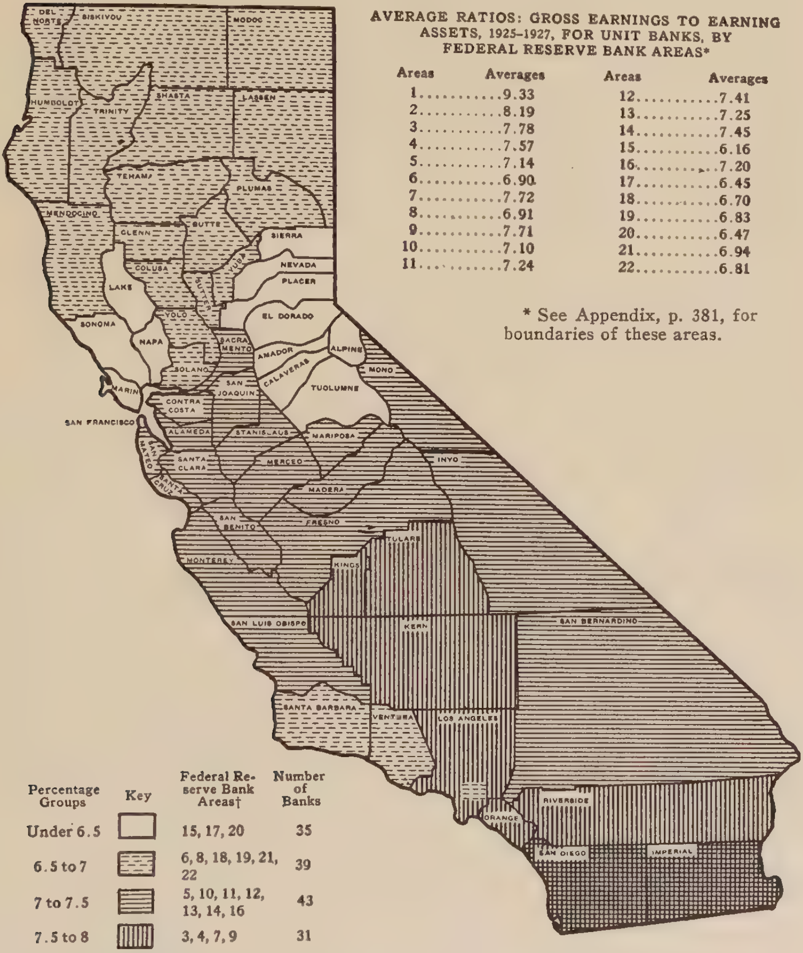
Another method of indicating geographical differences in gross earnings ratios is to divide the state into sections on the basis of the average earnings for the banks in the years 1925–1927. Such a scheme of classification, illustrated in Chart 43 and applying to unit banks only, shows the extent and position of the areas which in these years have classified amounts of gross earnings relative to their earning assets. In Chart 40, average ratios are secured for selected areas; in Chart 43, different areas are shown for selected group-ratios. From the tabular material and the scheme of marking on Chart 43 it will be observed that the banks with low ratios are in the higher-numbered areas—these are in the north—and that those with high ratios are in the lower-numbered areas—these are in the south.

A comparison of Charts 40 and 43 is of interest. From Chart 43 it is seen that the region of lowest gross earnings ratios—the white section with average gross earnings ratios less than 6.50 per cent—is immediately around and east of but not adjacent to San Francisco, there being a small section of the state in this neighborhood having an average ratio-class of 7.00 to 7.50 per cent. On the whole, however, the areas with the two lowest average ratio-classes shown on Chart 43 are identical with Zones I and II, on Chart 40—areas of the lowest ratios. Zones III and IV on Chart 40 are shown on Chart 43 to have ratios between 7.00 and 8.00 per cent, those for banks in Kings, Tulare, and Kern counties falling in the group, 7.50 to 8.00 per cent. Zone V on Chart 40 contains territories which, according to Chart 43, have three distinctive ratio-groups. The gross earnings on each $100 of earning assets are lowest in banks in Santa Barbara and Ventura counties, and highest in those of Los Angeles, Orange, and Riverside counties. The ratios in San Bernardino and Inyo counties occupy a median position. Both methods of presenting the ratios geographically—that of Chart 40 and that of Chart 43—agree in showing that the highest average ratio, 8.64, and the highest class-group, "8.00 and Over," are found in San Diego and Imperial counties.

The regions of Chart 43, which are shown as having a given class-ratio of gross earnings to earning assets, comprehend areas

CHART 43

Regions of California Having Unit Banks with Classified Average Ratios of Gross Earnings to Earning Assets, 1925 to 1927



AVERAGE RATIOS: GROSS EARNINGS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	9.33	12	7.41
2	8.19	13	7.25
3	7.78	14	7.45
4	7.57	15	6.16
5	7.14	16	7.20
6	6.90	17	6.45
7	7.72	18	6.70
8	6.91	19	6.83
9	7.71	20	6.47
10	7.10	21	6.94
11	7.24	22	6.81

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas†	Number of Banks
Under 6.5	□	15, 17, 20	35
6.5 to 7	⬚	6, 8, 18, 19, 21, 22	39
7 to 7.5	▤	5, 10, 11, 12, 13, 14, 16	43
7.5 to 8	▥	3, 4, 7, 9	31
8 and over	▦	1, 2	36

† See p. 381.

the bank ratios in which differ. This fact for Zone V, Chart 40, and the corresponding area, Chart 43, is illustrated by the material immediately following, the ratios relating to national unit banks only. Within this area, made up of Riverside, Orange, and Los

Angeles counties, the county average ratios vary. This variation, however, is a function of the average ratios for the banks in the respective city-size groups—the size of these ratios for the three counties combined, and in general for the counties separately, varying inversely with the city sizes. Moreover, within the area of these counties, the average ratios vary for banks in the same city-size group. This fact is illustrated by the frequencies in the following summary, the instances in the group, "Under 2,500," for example, ranging from "Under 7.00" to "8.50 and Over," but concentrating at "7.00 to 8.00" per cent.

Ratios: Gross Earnings to Earning Assets	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	65	36	13	6*	4*	6*
Under 7.00	16	3	4	....	....	....
7.00 to 7.50	16	10	2	....	....	....
7.50 to 8.00	16	12	2	....	....	....
8.00 to 8.50	5	5	....	....	....	....
8.50 and Over	12	6	5	....	....	....
Riverside County	7.57	7.99	....†	....†	....	....
Orange County	7.78	7.42	8.26	....†	....	....
Los Angeles County	7.66‡	7.87	7.75	7.21	6.82	6.81
Average	7.58	7.82	7.78	7.01	6.82	6.81

* Too few cases to be distributed.
† Too few banks to report separately.
‡ Does not include Los Angeles City.

Whatever the levels of interest rates charged, and of the gross earnings ratios earned by banks in different parts of the country generally and in California in particular during the years to which this study applies, changes are constantly taking place. It has already been observed that for the thirty-four Central Reserve, Reserve, and Other Reserve cities, and for certain of these cities in the Twelfth District, the general trend of interest rates is downward. The same trend less conspicuously characterizes the rates in Los Angeles and in San Francisco. Moreover, a downward trend is present in the quarterly rates from 1922 to 1927 for cities of different size in the Twelfth District. Decreases based on averages seem to be general. So likewise, for the years 1922–1927, is the trend of ratios of gross earnings to earning assets for national banks in the sixty-four cities and for eight of such cities in the Twelfth District. It is pertinent, therefore, to examine in detail the movements of interest rates charged and ratios of gross earnings earned by banks, attention being especially directed to the behavior of the rates and of the ratios relative to their levels. Fortunately, data permitting such analysis are available for both rates and ratios for national banks in thirty-four cities in the United States and for ratios for individual member banks in California. Before proceeding with an analysis of the situation for banks, by cities, and for individual member banks in California, however, an examination of the city ratios of gross earnings in the sixty-four cities the country over and of certain of these in the Twelfth District is of interest.

CHART 44

Regression of Ratios of Gross Earnings to Earning Assets for National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927

(Arrayed in 1922—same banks each year)

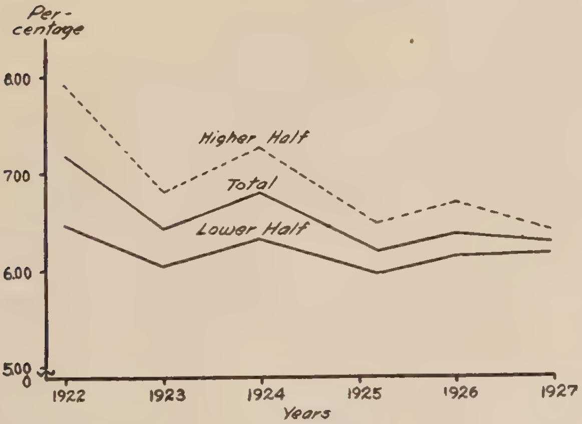


Chart 44 graphically illustrates the trend of ratios of gross earnings to earning assets for national banks in the sixty-four cities, one solid line referring to the average for the entire experience, the dotted line to the ratios in the thirty-two cities which in 1922 are the highest, and the other solid line to the ratios in the thirty-two cities which in 1922 are the lowest. When the ratios in 1922 are arrayed in this manner, it is clear from the chart, first, that the year-to-year movement, except as between 1926 and 1927, is the same for the "high" and for the "low" groups; and, second, that the changes from year to year and over the entire period are more marked for the ratios which are "high" than are those for the ratios which are "low" in 1922—the same city ratios being considered each year. That is, ratios which are relatively high fall more than do those which are relatively low, the basis of determining those which are placed in the respective classes being, in this case, the year 1922. This pattern of change, however, is independent of the years selected for classifying the ratios. So far as 1923 is concerned, this fact is made plain in Table 49, the net average amounts and directions of change in this case being shown for non-consecutive years. In every comparison provided for, the net amount of change downward is greater for city ratios which are high than it is for those which are low. When the net change is up for those which are low, the corresponding change for those which are high is either zero or downward.

TABLE 49

Average Net Amounts and Directions of Change of "High" and of "Low" Ratios of Gross Earnings to Earning Assets for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities

Nature of Array	Positions of City-Ratios	Net Average Increase (+) or Decrease (—)								
		1922 to 1924	1923 to 1925	1924 to 1926	1925 to 1927	1922 to 1925	1923 to 1926	1924 to 1927	1922 to 1926	1923 to 1927
In order of size 1922	Lowest 32	—0.17	—0.09	—0.19	+0.22	—0.52	+0.07	—0.13	—0.36	+0.13
	Highest 32	—0.67	—0.35	—0.63	—0.07	—1.47	—0.18	—0.87	—1.30	—0.42
In order of size 1923	Lowest 32	......	+0.01	—0.27	+0.15	......	+0.12	—0.23	......	+0.16
	Highest 32	......	—0.45	—0.55	±0.00	......	—0.23	—0.77	......	—0.45
Non-arrayed.........		—0.42	—0.22	—0.41	+0.08	—1.00	—0.05	—0.50	—0.83	—0.14

The observation should be repeated that in the year-to-year comparisons with a given array the same city ratios are averaged. Moreover, the reader needs to be reminded that in arraying the ratios, as in Chart 44 and in Table 49, distinctive sections of the country tend to fall in the respective high and low classes, the results being that the year-to-year movements reflect the types of change geographically. But the ratios for such sections tend unmistakably to retain their own levels—those which are high, as in the South and West, and those which are low, as in the East and Middle West, being customarily rather than transiently in these relative positions. Yet high or low as they are, changes occur, and unmistakably it is those which are characteristically high which in these years of falling gross earnings ratios fall most, and it is those which are characteristically low which fall least, not only from year to year but also over the whole period under review.

The patterns of year-to-year change in gross earnings ratios in the sixty-four cities and in eight of them in the Twelfth Federal Reserve District may be determined, not as in Chart 44 and Table 49, where ratios for the same cities each year are averaged and compared according to the criterion of being high or low in a given year, as 1922 or 1923, but by re-arraying the ratios each year according to the method already described.[1] Chart 45 (p. 194), for both groups of cities, illustrates the results secured from this method of approach, the end-result being the net amounts and directions of change for all pairs of years. For the sixty-four cities, the pattern is markedly regular;[2] for the eight cities in the Twelfth District, it is less distinct, although discernible.[3] It will be observed that in both bodies of data not only do the net amounts but also the frequencies of change constitute a pattern. While the net average change is downward, cities with low ratios move against the trend, the net direction being upward, and to this upward movement a majority of the cities contribute. On the other hand, a majority of those the ratios of which are high follow the general downward direction of change. The ratios which are "normal" retain approximately their same relative positions from year to year.

For thirty-four of the sixty-four cities for national banks, of which the gross earnings ratios are included in Chart 44 and in the left-hand portion of Chart 45, interest rates customarily charged on prime commercial loans and average ratios of gross

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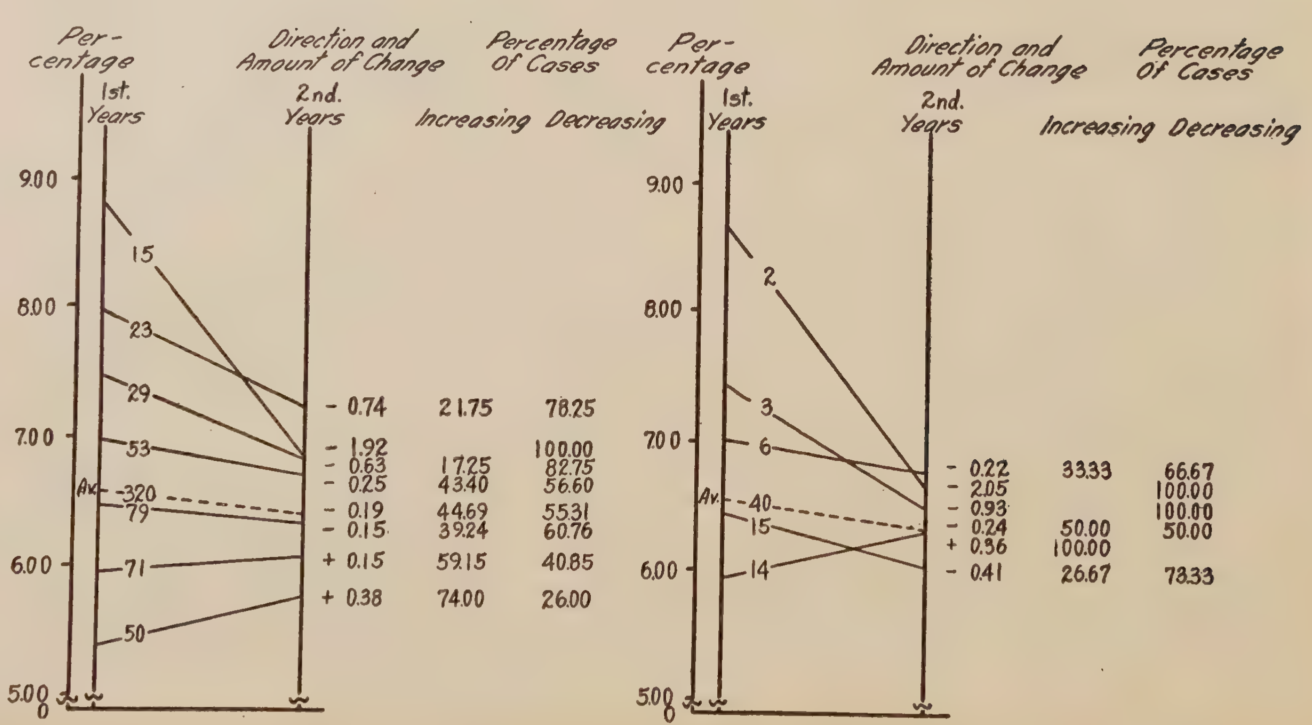
[1] See p. 19.

[2] In the period 1922–1927 there were five pairs of years, giving 320 changes for the sixty-four cities.

[3] Forty changes, five for each of the eight cities, are too few to give a well-defined pattern.

CHART 45

Regression of Ratios of Gross Earnings to Earning Assets from Year to Year for All Pairs of Years, 1922 to 1927, for National Banks in Central Reserve, Reserve, and Other Reserve Cities



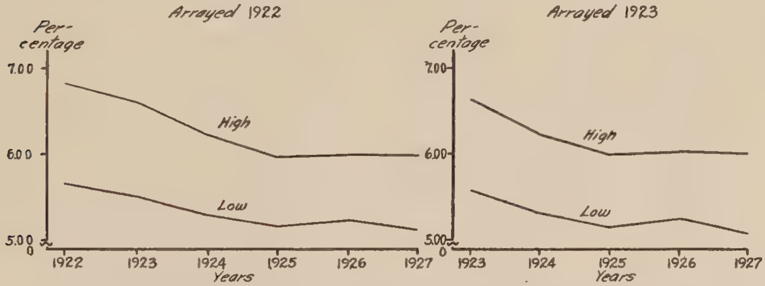
All Cities

Cities in 12th District

earnings to earning assets are available. A study of the patterns of change in both, by using the two methods already employed, is instructive. Regression to type is illustrated in Chart 46, the cities, according to their interest rates, being arrayed from high to low successively from 1922 to 1926. For each array the behavior of the seventeen which are "low" is compared with that of the seventeen which are "high"—the rates in the same cities being averaged each year. It will be observed, with the successive arrays, (1) that the rates which are high and those which are low

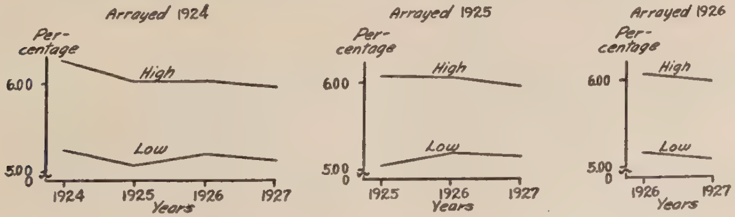
CHART 46

Average Amounts and Directions of Change of "High" and of "Low" Rates on Prime Commercial Loans in Thirty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



Years in Which Rates are Arrayed

	Years	1922		1923		1924		1925		1926		Net Average Movement
		Am't	Change	Am't	Change	Am't	Change	Am't	Change	Am't	Change	
	1922	6.85										
	1923	6.63	-0.22	6.63								-0.22
Highest	1924	6.22	-0.41	6.20	-0.43	6.27						-0.42
Seventeen	1925	5.95	-0.27	5.96	-0.24	6.02	-0.25	6.06				-0.25
	1926	5.98	+0.03	6.00	+0.04	6.03	+0.01	6.05	-0.01	6.07		+0.02
	1927	5.97	-0.01	5.99	-0.01	5.95	-0.08	5.93	-0.12	5.98	-0.09	-0.06
Net Av. Yearly Change			-0.18		-0.16		-0.11		-0.07		-0.09	X X
	1922	5.66										
	1923	5.56	-0.10	5.56								-0.10
Lowest	1924	5.29	-0.27	5.31	-0.25	5.24						-0.26
Seventeen	1925	5.15	-0.14	5.14	-0.17	5.08	-0.16	5.04				-0.16
	1926	5.24	+0.09	5.23	+0.09	5.20	+0.12	5.18	+0.14	5.16		+0.11
	1927	5.10	-0.14	5.07	-0.16	5.12	-0.08	5.14	-0.04	5.09	-0.07	-0.10
Net Av. Yearly Change			-0.10		-0.12		-0.04		-0.06		-0.07	X X



have, in general, the same types of year-to-year change, and (2) that the net amounts of change for those which are high exceed those for the rates which are low. These net average movements per year, for a given array and for all arrays, for rates which are "high" and for those which are "low," are given in summary in the body of the chart. A comparison of them indicates common year-to-year directions, but different amounts of change, "high" rates falling more or rising less than those which are "low." Such is the pattern characterizing changes in interest rates. Is it reflected in the movements of gross earnings ratios of banks in these same cities? Charts 47 and 48 are designed to answer this question.

The method by which Chart 47 is constructed is the same as that used in Chart 46. The details in the former make possible a comparison of the behaviors of gross earnings ratios from year to year for national banks in cities the amounts of which are high or are low in the years 1922, 1923, and so on to 1926. Observe that according to direction of change these are much the same in the two groups of cities. Note also, for the ratios which are high as compared with those which are low, that the downward movement is accelerated and the upward movement retarded. This condition obtains for the net average change per year for each array and for all arrays.

A comparison of Charts 46 and 47 indicates that the directions of change in interest rates, according to the different arrays, are associated with, if not causally related to, the directions of change in ratios of gross earnings, this association in the respective series characterizing rates and ratios which are high or which are low. Common identity of cities in the respective classes of rates and ratios is not found, although, as pointed out earlier, cities having high or low rates tend to have high or low ratios.[1] Moreover, when interest rates for cities are high or low relative to their own levels, gross earnings ratios for these same cities are generally high or low relative to their levels; and when interest rates for given cities change, gross earnings ratios of the banks in these same cities tend to change in the same direction.[2]

A more satisfactory method of revealing the interrelation of

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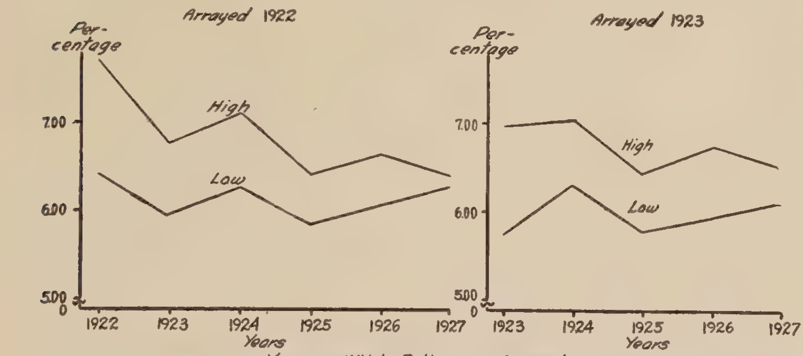
[1] See pp. 172–176.

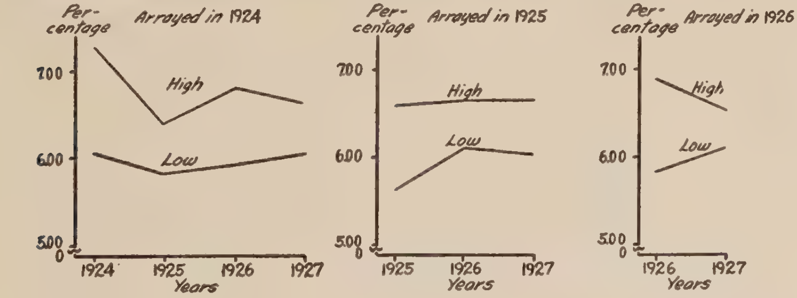
[2] See pp. 198–199.

CHART 47

Average Amounts and Directions of Change of "High" and of "Low" Ratios of Gross Earnings to Earning Assets in Thirty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



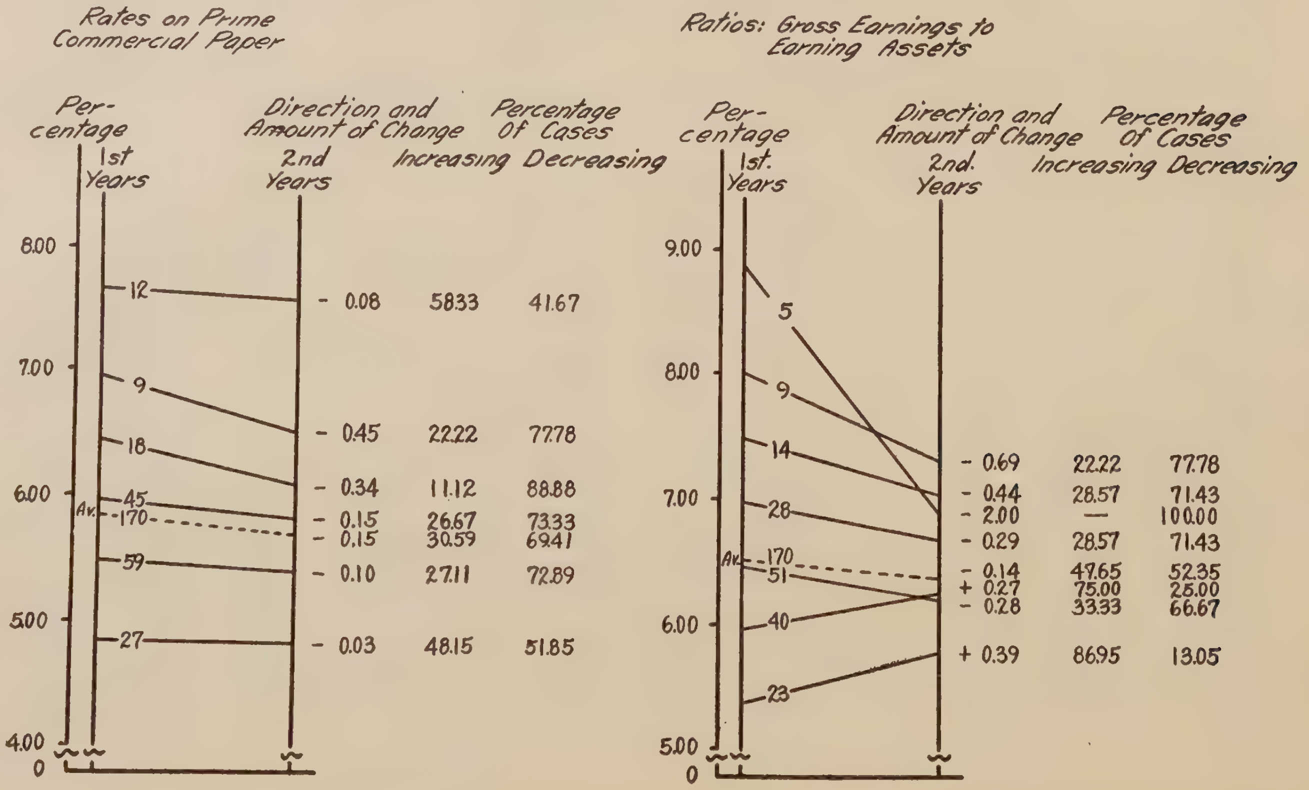
	Years in Which Ratios are Arrayed											
	Years	1922		1923		1924		1925		1926		Net Average Movement
		Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	
Highest Seventeen	1922	7.69										
	1923	6.79	-0.90	6.98								-0.90
	1924	7.10	+0.31	7.06	+0.08	7.31						+0.20
	1925	6.41	-0.69	6.46	-0.60	6.40	-0.91	6.60				-0.73
	1926	6.66	+0.25	6.79	+0.33	6.80	+0.40	6.65	+0.05	6.91		+0.26
	1927	6.41	-0.25	6.55	-0.24	6.62	-0.18	6.64	-0.01	6.56	-0.35	-0.21
Net Average Yearly Change			-0.26		-0.11		-0.23		+0.02		-0.35	X X
Lowest Seventeen	1922	6.42										
	1923	5.96	-0.46	5.76								-0.46
	1924	6.29	+0.33	6.32	+0.56	6.08						+0.45
	1925	5.84	-0.45	5.78	-0.54	5.85	-0.23	5.65				-0.41
	1926	6.09	+0.25	5.95	+0.17	5.94	+0.09	6.10	+0.45	5.84		+0.24
	1927	6.27	+0.18	6.12	+0.17	6.06	+0.12	6.03	-0.07	6.12	+0.28	+0.14
Net Average Yearly Change			-0.03		+0.09		-0.01		+0.19		+0.28	X X



interest rates charged and gross earnings ratios earned by national banks than that of comparing Charts 46 and 47 is that used to secure the results in Chart 48 (p. 198). In this chart, for thirty-four cities supplying both types of data, the net amounts and directions of change from year to year for the five pairs of years,

CHART 48

Regression of Ratios of Gross Earnings to Earning Assets for National Banks and of Interest Rates on Prime Commercial Loans from Year to Year for All Pairs of Years, 1922 to 1927, in Thirty-four Central Reserve, Reserve, and Other Reserve Cities



1922–1927, are graphically shown. Both bodies of material regress to type. Ratios and rates which are high in a given year are lower, and those which are low in a given year are higher, in the following year. Moreover, the net amounts of change vary directly with the relative positions which the amounts occupy on their respective scales. The regression pattern for ratios of gross earnings is more distinct than that for interest rates. This is to be expected, inasmuch as the interest rates represent no more than prevailing levels from which there are differentials, within the time limits to which they apply, variations from bank to bank, from customer to customer, from loan to loan, and so on. Gross earnings ratios, on the other hand, are those actually earned for the periods covered, the amounts being dependent not upon interest rates alone but also upon other earnings arising from a constantly changing portfolio of earning assets and from a type of bank management the purpose of which is to increase the customary ratio in ways suitable to a particular situation. The actual ratios of gross earnings are dependent only in part upon interest rates, the levels of which, for time and place, individual institutions or groups of national banks are powerless fully to determine. In what manner they are dependent upon the composition of earning assets, of deposits, etc., has already been indicated.

What is the characteristic behavior of the changes from year to year in the ratios of gross earnings to earning assets for member banks in California for the years 1925–1927? It has already been noted that the trend of interest rates on commercial loans made by banks in Los Angeles and in San Francisco[1] is downward for the period 1922–1927. For the shorter period, 1925 to 1927, there is no evidence that the rates decline. On the other hand, as indicated by Table 48, rates in the Twelfth District by size of city show a moderate recession, moving medians of quarterly rates being used to detect the general trend. Three years, of course, is far too brief a period in which definitely to determine trends, and its establishment is without particular significance to the present discussion. Of more interest are the changes from year to year in the gross earnings ratios for member banks for the state as a whole, for its several parts, and for banks according to size, when account is taken not so much of the averages for the banks falling in these several classes as for those the levels of which are relatively high or relatively low. In a word, do ratios for banks in this state regress to type, as do those for national banks by cities the country over, despite the fact that interest rates which make up a portion, large or small, as the case may be, of such ratios are relatively high and the fact that, as has been observed, the composition of their earning assets and of their deposits—both matters functionally related to gross earnings ratios—differ from those obtaining in other places? Do the banks in California as a whole, and in the various zones into which the state is divided, constitute a system the parts of which are interrelated with each other and with other portions of the country in such a manner that the behavior of their gross earnings ratios is the same as that for the country generally? This is the major question in which interest now lies, and which is specifically answered in the material immediately following.

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[1] See Chart 38.

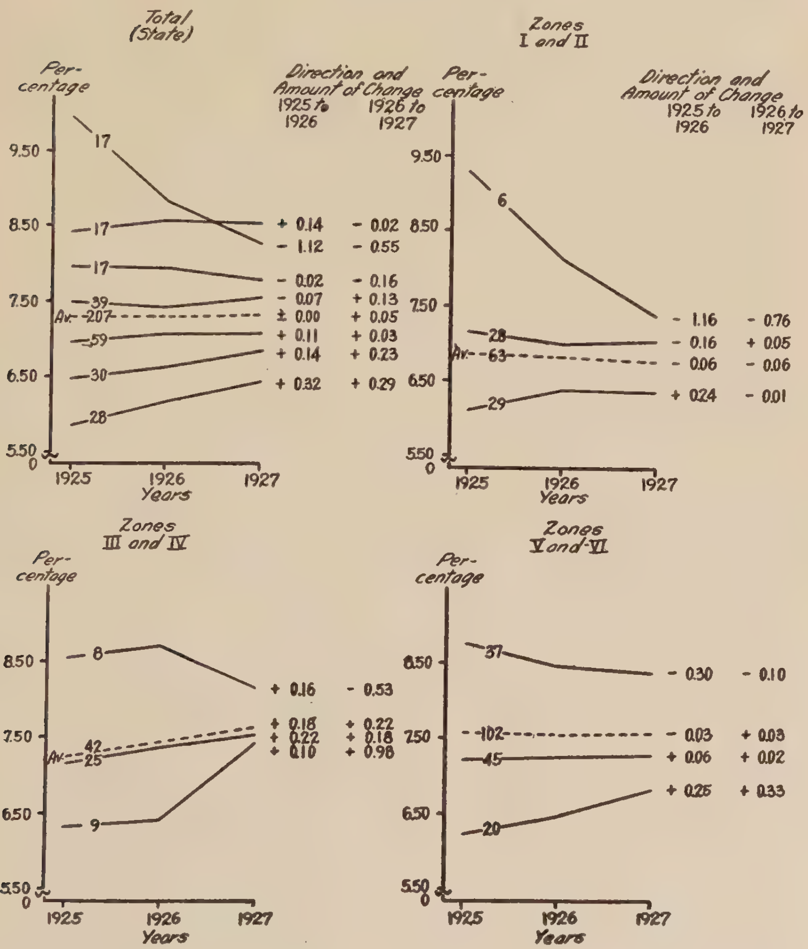
For the entire banking membership in California and for each bank class, little or no change occurs in the average ratios of gross earnings to earning assets in the years 1925 to 1927. For banks for which gross earnings ratios are available for three years, the average amount is 7.28 in 1925 and in 1926, and 7.33 in 1927. These averages, however, do not reflect the amounts for the individual institutions for the state as a whole or for those in its different parts, as is evident from the graphic and tabular detail in Chart 49.

Between 1925 and 1926, although the averages for the same banks remain at 7.28 per cent, those which in 1925 have ratios which are highest—all of them being "8.75 and Over" and averaging 9.95 per cent—have in 1926 an average ratio of 8.83. That is, the average amount is 1.12 points, or 11.3 per cent less. Similarly, those which have ratios in 1925 which are lowest—all of them being "Less than 6.25" and averaging 5.85 per cent—have ratios in 1926 which average 6.17. That is, the average amount is .32 points, or 5.5 per cent more. In like manner, other ratios which are relatively high in 1925 tend to be lower in 1926, and those which in 1925 are relatively low tend to be higher in 1926. Moreover, as is apparent from Chart 49, this same tendency is duplicated between 1926 and 1927, the ratios for the same banks being compared in the successive years. The change-pattern just indicated for banks for the state as a whole obtains

CHART 49

Regression of Ratios of Gross Earnings to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)

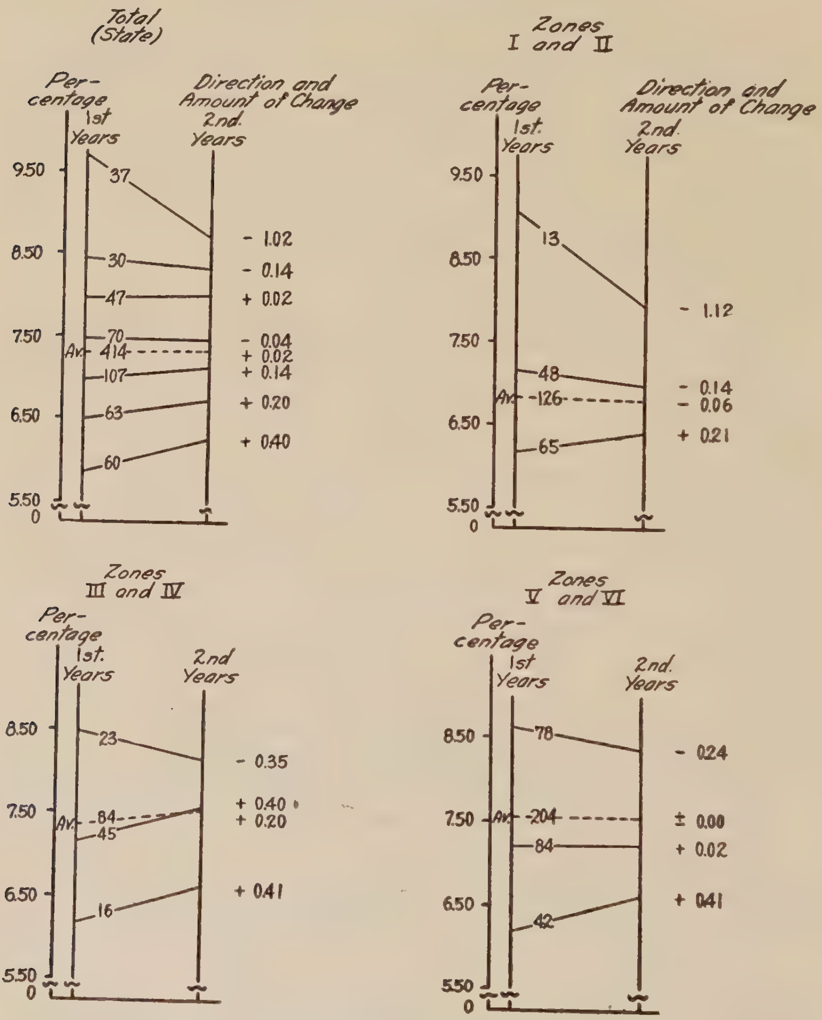


for banks in its different parts. This is evident from an inspection of Chart 49 relating to certain zones consolidated.

The foregoing discussion, respecting the nature and types of year-to-year change in ratios of gross earnings to earning assets for member banks in California and for those in distinctive sec-

CHART 50

Regression of Ratios of Gross Earnings to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



tions, relates to the size of the ratios in 1925 and in subsequent years according to their relative levels in an initial year, 1925. It is legitimate, however, to determine the positions of banks in any year relative to another and to compare their ratios. For this purpose both 1925 and 1926 may be selected, ratios in 1926 being compared with those in 1925, and those in 1927 with those in 1926. Moreover, averages may be used to determine the characteristic behavior for the two pairs of years. Averages are used for California member banks as a whole, for those by zones, and for those by selected volume groups. The results for the state and its distinctive parts are shown in Chart 50; those for the state and for the respective volume groups, in Chart 51 (p. 204). In both charts, regression to type characterizes the changes in the gross earnings ratios, the pattern-arrangement being of the same type as that found to hold, first, for these institutions when the ratios according to their relative positions in 1925 are compared in the two successive years (Chart 49); second, for the gross earnings ratios and the interest rates of national banks in thirty-four cities (Chart 48); and, third, for gross earnings ratios of national banks in the sixty-four Central Reserve, Reserve, and Other Reserve cities for the country as a whole, and for eight of these cities in the Twelfth District (Chart 45).

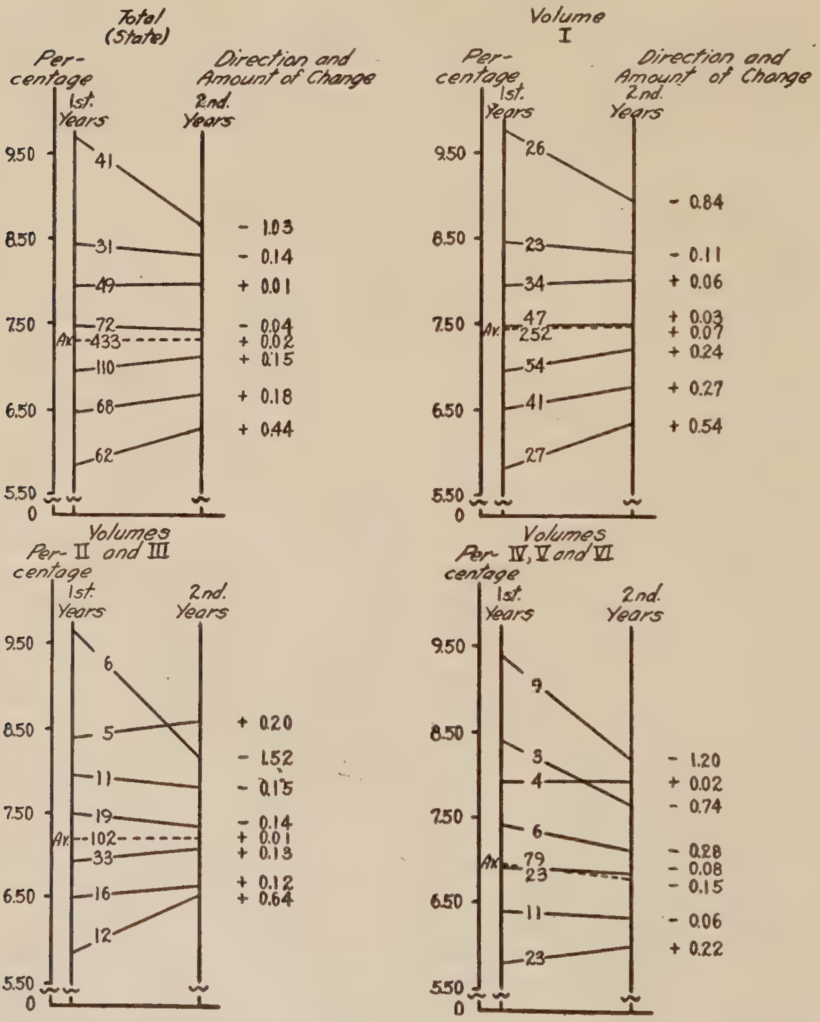
How does this phenomenon, which appears to be general, come about? Commercial banks of whatever type and wherever located are in active competition. Those in the same cities compete directly with each other; those more widely separated exert and share in competitive pressure transmitted from place to place and from one institution to another, arising from market conditions characteristic of the demand for and the supply of loanable funds. Both of these in part are functions of the levels of and changes in interest rates, the determining factors of which are implicit in the market which competitive trade and banking help not only to establish but also to govern. Interest rates tend to seek normal levels. These vary geographically, and differ by city size and by types of loans in the same area. Whatever the levels, however, changes occur, these along with other things helping to determine gross earnings ratios which themselves tend to be normal at different levels for time and place. In the oscillatory movements, types of change are discernible, these being of the kinds indicated.

In the parts of the preceding chapters devoted to the interrelation of bank ratios, gross earnings relative to earning assets are treated as a dependent variable, percentage differences from type, percentage changes from year to year, and actual amounts

CHART 51

Regression of Ratios of Gross Earnings to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Volume Groups

(Average Earning Assets)



being used for this purpose. Similarly, ratios of total expense and of net earnings in terms of earning assets or of gross earnings are placed in like positions relative to the series with which they seem to be related. In the remaining part of this chapter, gross earnings are considered as an independent variable, despite the fact that the ratios are functionally related to the whole banking process. They are independent in the sense that they constitute the funds out of which expenses are paid and losses charged off, the balance being available as interest or dividends to be returned to the stockholders or as funds to be credited to the undivided profits or surplus accounts. Thought of in this manner, both total expense and net earnings are dependent, and are so treated in the material which follows.

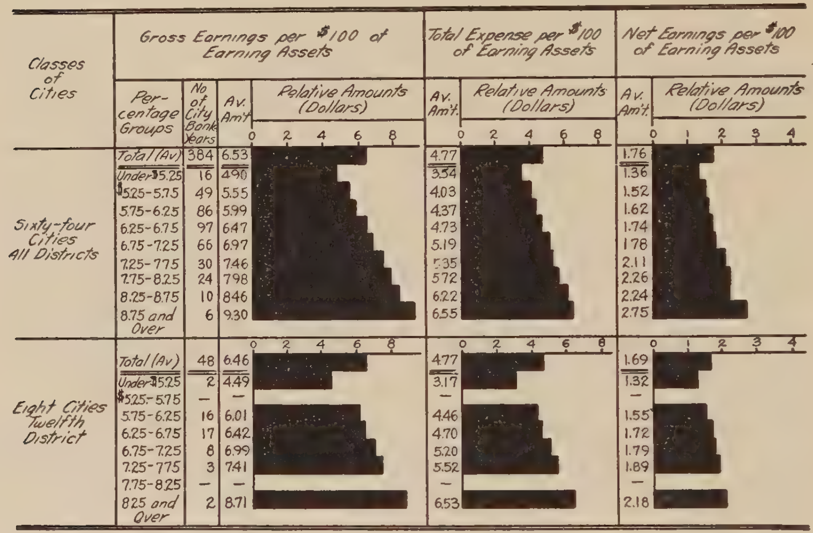
The problem with which we are now concerned, therefore, is the interrelation between total expense and net earnings ratios and ratios of gross earnings in the banks for which data are available. Various methods, previously described, are used for this purpose, all of them, it is hoped, being now well understood. Attention is first directed to the ratios for national banks by cities for the combined years 1922–1927.

Chart 52 (p. 206) gives comparative amounts of gross earnings, of total expense, and of net earnings received by national banks on each $100 of earning assets, distinction being made for the sixty-four Central Reserve, Reserve, and Other Reserve cities in all districts, and for eight of them in the Twelfth District. The method of securing the comparative amounts is as follows: (1) The gross earnings ratios for each of the six years are distributed in the groups provided for in the chart—there being for all of the years 384 city bank ratios. (2) For the cities falling in each group, average ratios are secured for the gross earnings, for the total expense, and for the net earnings, the basis for selecting the ratios in the two latter series being the ratios of gross earnings in each of the years. (3) From the yearly distributions, made in the fashion described, averages are obtained for the six years combined, these being the amounts which are indicated in the columns for the respective ratios, and which are graphically compared by bars, the lengths of which are proportionate to such amounts.

No more than a mere inspection of Chart 52 is required to indicate that as the gross earnings ratios become successively larger so also do those of total expense and of net earnings. In these respects, national banks in the country generally and those in the Twelfth District follow a common pattern. A word of

CHART 52

Comparative Average Amounts of Total Expense Paid and of Gross Earnings and of Net Earnings Received by National Banks, by Cities, on Each $100 of Earning Assets, 1922–1927, Combined



Classes of Cities	Gross Earnings per $100 of Earning Assets			Total Expense per $100 of Earning Assets	Net Earnings per $100 of Earning Assets
	Percentage Groups	No of City Bank Years	Av. Am't	Av. Am't.	Av. Am't.
Sixty-four Cities All Districts	Total (Av)	384	6.53	4.77	1.76
	Under $5.25	16	4.90	3.54	1.36
	$5.25–5.75	49	5.55	4.03	1.52
	5.75–6.25	86	5.99	4.37	1.62
	6.25–6.75	97	6.47	4.73	1.74
	6.75–7.25	66	6.97	5.19	1.78
	7.25–7.75	30	7.46	5.35	2.11
	7.75–8.25	24	7.98	5.72	2.26
	8.25–8.75	10	8.46	6.22	2.24
	8.75 and Over	6	9.30	6.55	2.75
Eight Cities Twelfth District	Total (Av)	48	6.46	4.77	1.69
	Under $5.25	2	4.49	3.17	1.32
	$5.25–5.75	—	—	—	—
	5.75–6.25	16	6.01	4.46	1.55
	6.25–6.75	17	6.42	4.70	1.72
	6.75–7.25	8	6.99	5.20	1.79
	7.25–7.75	3	7.41	5.52	1.89
	7.75–8.25	—	—	—	—
	8.25 and Over	2	8.71	6.53	2.18

explanation concerning these relationships, however, is required. The position of the banks in a given city in the classified groups of gross earnings ratios may be different in each year of the six of which the results in Chart 52 are the averages. Accordingly, a group, as for instance that of "6.25 to 6.75," may contain certain cities the first year, others the next, and so on, the result being that the average ratios of gross earnings, of total expense, and of net earnings—6.47, 4.73, and 1.74, respectively—may not equally represent each of the years to which the entire distribution applies. This, however, is not a serious matter because relations similar to those given for the combined years obtain each year. The regressive tendencies in the respective series, moreover, serve to make this scheme of measuring interdependence less satisfactory than that described below, according to which the respective series are measured against themselves, the differences being expressed in percentage form and paired.

With this word of explanation, it may be asserted again that for national banks by cities, the higher (lower) the gross earnings ratios, the higher (lower) are those of total expense and of net earnings—"high" or "low," as the case may be, being thought of in terms of the range of the distribution of the ratios of gross earnings for the years 1922–1927.

Table 50 (p. 208), showing the interdependence of ratios of total expense and of gross earnings, both expressed in terms of earning assets, is of the same form as the tables given earlier, in which percentage differences from type are correlated. It is apparent at once, from the alignment of the frequencies and from the summary amounts, that when ratios of gross earnings are high (low) those of total expense are high (low), and vice versa. It is well to recall the fact that for each of the cities, the banks of which are included in this table, the differences of the ratios each year are expressed as percentages relative to the respective average ratios for the years 1922–1927, combined. That is, deviations from type pertain not to the average levels for all cities, as is the case for the comparative amounts of gross earnings in Chart 52, but to those for the respective cities, the levels of which, it has already been shown, differ. Table 50, therefore, makes it plain for the combined years 1922–1927 that it is the rule among national banks by cities that when gross earnings ratios, relative to the respective levels for those cities, are above (below) their levels, ratios of total expense are above (below) their levels. Moreover, the greater the percentage difference from type in the former, the greater the net percentage difference in the latter. That is, the ratios simultaneously deviate in the same direction and tend to vary to the same degree. Similar relations hold for national banks, by cities, in the Twelfth District.[1]

Gross earnings are the funds out of which expenses are paid and net earnings, directly or indirectly, are returned to the stockholders. It is obvious that at a given time they are used for both purposes, provided they exceed the amounts necessary to pay the expenses of operation—a normal condition for banks treated collectively. In what proportion they are divided is not the question now under consideration. That has been dealt with earlier. What is now of interest is the fact that if gross earnings ratios are above (below) their customary average levels, total expense ratios respond simultaneously relative to their average levels—

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[1] See the frequency surface, Appendix, p. 448.

TABLE 50

Correlation of Percentage Differences of Ratios in Paired Series — Gross Earnings to Earning Assets and Total Expense to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense To Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	25.00 and over	5	2[sf]	..	1	..	..	..	..	..	..	..	..	8	+34.94	+27.66
	20.00–25.00	2[sf]	..	..	5	1	1	..	..	..	..	..	..	9	+21.49	+14.60
	15.00–20.00	..	3[sf]	1	1	3	..	..	..	..	..	..	..	8	+17.88	+15.62
	10.00–15.00	1	3	4[sf]	7	10	3	1	1	..	..	..	..	30	+11.87	+11.13
	5.00–10.00	..	..	1	7	18[sf]	15[o, la]	3	1	1	..	..	..	46	+ 7.22	+ 5.39
	Under 5.00	..	..	..	5	18[o, la]	39[o, la]	23[o]	4[la]	2	..	..	..	91	+ 2.07	+ 2.17
Below the Average	Under 5.00	..	..	..	..	4	20	45	20	1	..	1	..	91	— 2.66	— 2.23
	5.00–10.00	..	..	..	1	2	6	24[la]	23	7[la]	1	..	..	64	— 6.66	— 4.68
	10.00–15.00	..	..	..	..	..	..	2	6	16[o]	1	..	..	25	—11.83	—11.01
	15.00–20.00	..	..	..	..	..	..	..	..	3	3	3	..	9	—17.02	—16.97
	20.00–25.00	..	..	..	..	..	..	..	..	1	..	..	..	1	—22.83	—13.54
	25.00 and over	..	..	..	..	..	..	..	..	..	..	..	2[sf]	2	—31.59	—28.52
Total	No. of City Bank-Years	8	8	6	27	56	84	98	55	31	5	4	2	384 384		
Total — Average Percentage Differences	Ratios: Total Expense to Earning Assets	+31.52	+21.90	+17.12	+12.18	+ 7.52	+ 2.26	— 2.26	— 7.09	—12.23	—16.53	—20.94	—28.52			
	Ratios: Gross Earnings to Earning Assets (Net)	+29.93	+19.64	+12.80	+11.06	+ 6.09	+ 2.14	— 2.47	— 4.87	— 9.78	—15.03	—12.87	—31.58			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

the percentage differences in the ratios and the levels from which they are calculated referring to *the same institutions.*

There are two ways of accounting for this common behavior, neither of which appears wholly adequate. The first runs as follows: To secure a return involves a cost; the greater (the less) the first, the greater (the less) the second. Moreover, the largest single expense element is interest paid; proportionally the greatest factor in gross returns received is interest charged. Total expense and gross earnings, therefore, have in common an interest element, and for time and place there is no reason for believing that the forces tending to determine interest of one are fundamentally different from those conditioning interest of another type. Accordingly, if the interest element in gross earnings tends to be high (low) that in expense will tend to be high (low). Is this common factor sufficient to account for the close interdependence between gross earnings and total expense?

The tendency during recent years for the net earnings of banks to fall has increased the competitive pressure for deposits, this showing itself, among other ways, in the rate of interest which is paid, the free services which are offered, the expenses which are incurred to secure and to hold deposit accounts, and so on. If the raw materials—deposits—are secured at high interest costs, such costs, presumably, will tend to be more than compensated for in the rate of interest charged on loans which they make possible. The objective of management is to make a profit—not simply to cover operating expenses. But to secure a profit loans must be made, and for them to be made costs must be incurred to secure deposits. Accordingly, because of the fact that interest is an element common to both gross earnings and expenses, it is argued that if the ratios of the first are high (low) those of the second will be high (low).

But the matter of interdependence is artificially simplified by such a line of reasoning. There is, first, the fact that the objective of management is to keep expenses as low as possible; second, interest is not the sole element in expense and in earnings; and, third, interest paid on deposits is more conventional than is that charged on loans, for the former, once having been fixed, remains much the same over short periods, while the latter fluctuates with the conditions of trade, supply of and demand for funds, and so on. Whatever may be the complete explanation of the close association between the two banking accounts, however, the fact that there is an element of interest in both is undoubtedly germane to the issue.

A less satisfactory explanation is that which merely holds that when gross earnings are relatively large less attention is given to expenses, the consequence being that they will be high. When earnings are relatively small, runs the argument, greater attention is given to costs, which, other things being equal, has the effect of reducing them. But expenses of operation are not all freely subject to reduction. Rents paid or charged are relatively stable from year to year. So, too, are salary scales, except possibly those applying to bank officers, managers, and others in preferred positions. It is doubtful whether laxity on the one hand, and extraordinary care on the other, in the matter of expense, are sufficient to account for the fact (1) that relative to their own levels gross earnings and expenses at a given time hold the same position relative to their averages, and (2) that the greater the percentage difference in one the greater the net percentage difference in the other. Yet this is the case not only in the national banks in the sixty-four cities and in those of eight of them located in the Twelfth Federal Reserve District, but also, as will be seen later, in California member banks howsoever classified.

Chart 52 shows that when gross earnings ratios are relatively high (low), net earnings ratios are high (low)—positions in this chart being thought of relative to the level described by the distribution of the gross earnings ratios for the six years 1922–1927. Table 51, in which the percentage differences from type are paired, shows a similar relationship. This is less marked than is that between total expense and gross earnings, but it is unmistakable. It does not characterize the banks in every city—it is the prevailing rule, however, a tendency which both the alignment of the paired differences and the summary averages indicate. It does, however, characterize these ratios for national banks in the eight cities in the Twelfth District.[1]

Observe that in Tables 50 and 51 the independent variable is the same, the distribution of the frequencies of the percentage differences being alike in the two cases. It is only with respect to the dependent variable that the distributions are different. To

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[1] See the frequency surface, Appendix, p. 449.

TABLE 51

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Gross Earnings to Earning Assets (Percentage Differences)		Ratios: Net Earnings to Earning Assets (Percentage Differences) — Number of City Bank-Years												Total		
		Above the Average						Below the Average						No. of City Bank-Years	Average Percentage Differences	
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	25.00 and over	7[sf]	..	..	1	..	..	..	..	..	..	..	..	8	+34.94	+58.19
	20.00–25.00	7	..	..	..	..	1[sf]	1	..	..	..	..	..	9	+21.49	+40.45
	15.00–20.00	2	..	1	3[sf]	1	..	1	..	..	..	..	..	8	+17.88	+21.15
	10.00–15.00	4	1	3	7	6	2[sf]	3	1	1	1	..	1	30	+11.87	+11.74
	5.00–10.00	2	3	3	9[sfo]	10[la]	10[o]	7	2	..	..	..	..	46	+ 7.22	+12.05
	Under 5.00	..	3	2[la]	5	14	33[o]	16[ola]	11[ola]	3	3	1	..	91	+ 2.07	+ 1.61
Below the Average	Under 5.00	..	..	1	1	7	14	33	21	6	4	1	1	91	— 2.66	— 4.46
	5.00–10.00	1	1	..	2	3	6[la]	12	18[la]	16	3	2	2	64	— 6.66	—11.37
	10.00–15.00	..	..	..	..	..	1	5	9[o]	6	3	..	1	25	—11.83	—14.31
	15.00–20.00	..	..	..	..	..	2	1	1	1	4	..	..	9	—17.02	—14.36
	20.00–25.00	..	..	..	..	..	..	..	..	..	..	..	1	1	—22.83	—41.88
	25.00 and over	..	..	..	..	..	..	..	..	..	..	1[sf]	1	2	—31.59	—40.77
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Total — Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+52.78	+33.14	+26.04	+17.50	+11.03	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			
	Ratios: Gross Earnings to Earning Assets (Net)	+21.40	+ 5.83	+ 8.03	+ 8.11	+ 3.76	+ 0.93	— 1.04	— 3.98	— 6.08	— 6.45	— 9.41	—11.31			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

be specific in referring to these tables: There are, for instance, 46 cases[1] in which gross earnings ratios are from 5.00 to 10.00 per cent above the averages of the respective cities to which they apply. In 41, or 89 per cent of them, according to Table 50, the total expense ratios are above their averages. Similarly, in 37, or 80 per cent of them, according to Table 51, net earnings are above their averages. The average percentage difference for the gross earnings ratios is +7.22; for total expense, and for net earnings, respectively, the net average percentage differences are +5.39 and +12.05. The foregoing details relate to the comparative number of ratios and the averages in but one gross earnings group. In essential detail, similar amounts are found in all of them.

The conclusions from Chart 52, and from Tables 50 and 51, are, therefore, as follows:

When gross earnings ratios are high (low),
  ratios of total expense are high (low); and
  ratios of net earnings are high (low).

When total expense ratios are high (low),
  ratios of gross earnings are high (low).

When net earnings ratios are high (low),
  ratios of gross earnings are high (low).

The higher (lower) the ratios of gross earnings,
  the higher (lower) are ratios of total expense and of net earnings.

The higher (lower) the ratios of total expense,
  the higher (lower) are the ratios of gross earnings.

The higher (lower) the ratios of net earnings,
  the higher (lower) are the ratios of gross earnings.

It should not be understood that for total expense or for net earnings ratios to be high when gross earnings ratios are high something has been added to them, or that when they are both low something has been subtracted from them to place them in these positions. In a given year, either of them may be quantitatively less than before and still be above its average, or quantitatively more and still be below its average, although, as will be seen later, it is the rule that when gross earnings ratios increase (decrease) from year to year, so also, respectively, do the other ratios. All that the foregoing summary indicates is that, relative to their respective average levels, the three ratios customarily stand in the same positions at the same time. Accordingly, whatever, if any, added expense is necessary to secure a greater than average gross return does not preclude the realization of greater than average net earnings. Indeed, based upon the experience of national banks, as recapitulated in Table 52 (p. 214), a greater than average gross return is accompanied by greater than average net earnings in 73 per cent of the cases. On the other hand, the receipt of less than average gross earnings is relatively certain to be accompanied by less than average net earnings, this being the case in 80 per cent of the instances summarized in Table 52.

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[1] It should be remembered that there are 384 bank-year ratio differences—one ratio for each year of six, 1922–1927, for each of sixty-four cities.

The amounts of gross earnings received on each $100 of earning assets, to be divided between operating expenses and net returns, depend upon a variety of circumstances affecting, among other things, the composition of the earning assets, the nature of the deposits, and so on. Some of these conditions quantitatively considered have been discussed in the foregoing chapters, gross earnings ratios being considered in each case as the dependent variable. But such conditions are not uniform from bank to bank—the ratios differ. Accordingly, for some of them, it has been thought of interest to determine net average percentage differences from type associated with average percentage deviations in gross earnings. A recapitulation of such amounts is given in Table 52; columns 10 and 11 of which duplicate the net amounts in the right-hand columns of Tables 50 and 51, respectively. Moreover, for these and for other series they give net amounts for banks the gross earnings of which are above or below their average levels. Observe from Table 52, for national banks in sixty-four cities, that

When gross earnings ratios are high (low),
    ratios of loans and discounts, and of demand deposits are high (low); and that
    ratios of total deposits, and of time deposits are low (high).

The causal order, if any, probably runs inversely to that just indicated. Despite this fact, however, the table mentioned immediately above is of interest because it shows the conditions in these

TABLE 52

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series, 1922–1927

(G.E. = Gross Earnings; E.A. = Earning Assets; T.E. = Total Expense; N.E. = Net Earnings; L.&D. = Loans and Discounts; Tot.D. = Total Deposits; D.D. = Demand Deposits; T.D. = Time Deposits.)

(Percentage Differences from the Respective City Averages, 1922–1927)

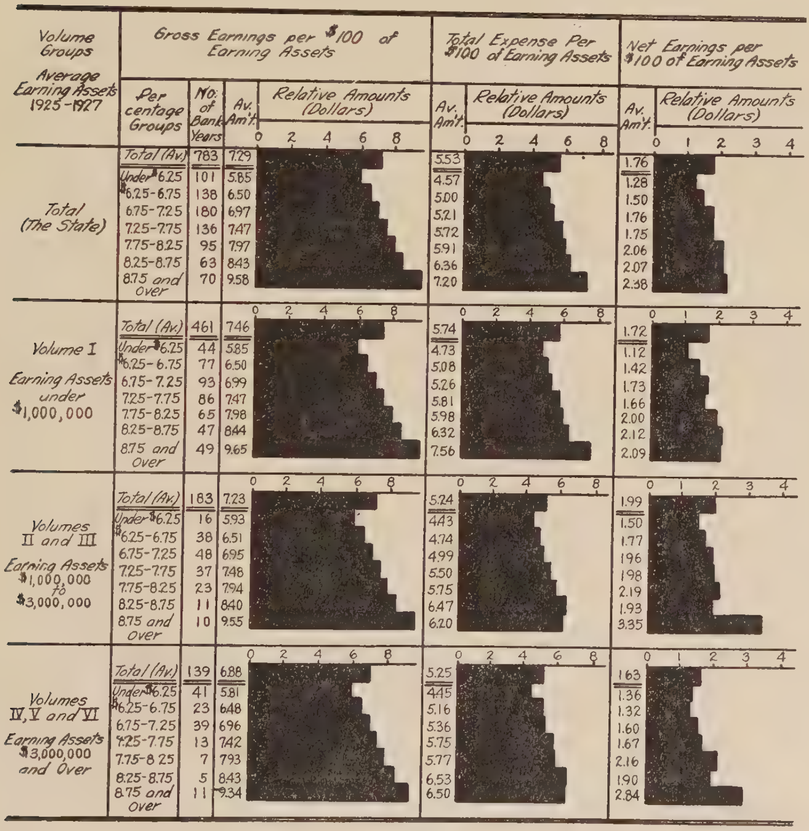
Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Sixty-four Cities—All Federal Reserve Districts								
Position	Distance from Averages		No. of City Bank-Year Differences	Dependent Variables—Net Average Percentage Difference							
	Percentage Groups	Average Percentage		L.&D. / E.A.	Tot. D. / E.A.	D.D. / E.A.	D.D. / Tot. D.	T.D. / E.A.	T.D. / Tot. D.	T.E. / E.A.	N.E. / E.A.
	1	2	3	4	5	6	7	8	9	10	11
	Total (Av.)	+ 7.78	192	+ 1.83	— 0.62	+ 1.17	+ 1.88	— 5.22	— 5.19	+ 6.54	+10.69
Above the Average	25.00 and over	+34.94	8	+ 4.06	+ 0.45	+ 2.30	+ 2.42	— 0.05	— 2.10	+27.66	+58.19
	20.00–25.00	+21.49	9	+ 5.20	— 1.26	+ 8.95	+10.46	—28.10	—29.27	+14.60	+40.45
	15.00–20.00	+17.88	8	+ 3.69	— 2.76	+ 3.03	+ 6.33	— 8.81	— 5.88	+15.62	+21.15
	10.00–15.00	+11.87	30	+ 4.34	+ 0.13	+ 3.86	+ 4.01	— 8.57	—11.19	+11.13	+11.74
	5.00–10.00	+ 7.22	46	+ 2.19	— 0.36	+ 2.66	+ 3.21	— 7.67	— 7.57	+ 5.39	+12.05
	Under 5.00	+ 2.07	91	+ 0.14	— 0.85	— 1.49	— 0.79	— 0.76	+ 0.16	+ 2.17	+ 1.61
Below the Average	Under 5.00	— 2.66	91	— 1.05	— 0.20	— 1.29	— 1.16	+ 1.14	+ 1.55	— 2.23	— 4.46
	5.00–10.00	— 6.66	64	— 1.79	+ 0.52	+ 0.11	— 0.34	+ 3.72	+ 2.95	— 4.68	—11.37
	10.00–15.00	—11.83	25	— 2.58	+ 2.81	+ 1.52	— 0.83	+ 5.46	+ 1.96	—11.01	—14.31
	15.00–20.00	—17.02	9	— 2.77	— 2.17	— 3.53	— 1.09	+ 1.08	+ 2.82	—16.97	—14.36
	20.00–25.00	—22.83	1	—14.73	— 5.64	—36.57	—32.78	+40.26	+48.64	—13.54	—41.88
	25.00 and over	—31.59	2	— 0.17	+ 5.97	—14.43	—18.58	+47.15	+38.30	—28.52	—40.77
	Total (Av.)	— 6.27	192	— 1.64	+ 0.38	— 0.89	— 1.19	+ 3.25	+ 2.76	— 5.21	— 9.08

ratios which, according to national bank experience, accompany variable ratios of gross earnings.

The nature of the correlation of variable ratios of total expense and of net earnings with variable ratios of gross earnings, as described above for national banks by cities for the years 1922–1927, is not unique. It holds quite as markedly for member banks in California for the years 1925–1927 when they are studied by classes, by location, and by size. From Chart 53, this is apparent for all banks and for those classified by average amounts of earning assets, the basis upon which the chart is drawn being the same as that of Chart 52, and having the same limitations. These need not be repeated.

CHART 53

Comparative Average Amounts of Total Expense Paid and of Gross Earnings and of Net Earnings Received by Classified California Member Banks on Each $100 of Earning Assets, 1925–1927, Combined



Volume Groups Average Earning Assets 1925–1927	Gross Earnings per $100 of Earning Assets: Percentage Groups	No. of Bank Years	Av. Am't	Total Expense Per $100 of Earning Assets: Av. Am't	Net Earnings per $100 of Earning Assets: Av. Am't
Total (The State)	Total (Av.)	783	7.29	5.53	1.76
	Under $6.25	101	5.85	4.57	1.28
	$6.25–6.75	138	6.50	5.00	1.50
	6.75–7.25	180	6.97	5.21	1.76
	7.25–7.75	136	7.47	5.72	1.75
	7.75–8.25	95	7.97	5.91	2.06
	8.25–8.75	63	8.43	6.36	2.07
	8.75 and Over	70	9.58	7.20	2.38
Volume I Earning Assets under $1,000,000	Total (Av.)	461	7.46	5.74	1.72
	Under $6.25	44	5.85	4.73	1.12
	$6.25–6.75	77	6.50	5.08	1.42
	6.75–7.25	93	6.99	5.26	1.73
	7.25–7.75	86	7.47	5.81	1.66
	7.75–8.25	65	7.98	5.98	2.00
	8.25–8.75	47	8.44	6.32	2.12
	8.75 and Over	49	9.65	7.56	2.09
Volumes II and III Earning Assets $1,000,000 to $3,000,000	Total (Av.)	183	7.23	5.24	1.99
	Under $6.25	16	5.93	4.43	1.50
	$6.25–6.75	38	6.51	4.74	1.77
	6.75–7.25	48	6.95	4.99	1.96
	7.25–7.75	37	7.48	5.50	1.98
	7.75–8.25	23	7.94	5.75	2.19
	8.25–8.75	11	8.40	6.47	1.93
	8.75 and Over	10	9.55	6.20	3.35
Volumes IV, V and VI Earning Assets $3,000,000 and Over	Total (Av.)	139	6.88	5.25	1.63
	Under $6.25	41	5.81	4.45	1.36
	$6.25–6.75	23	6.48	5.16	1.32
	6.75–7.25	39	6.96	5.36	1.60
	7.25–7.75	13	7.42	5.75	1.67
	7.75–8.25	7	7.93	5.77	2.16
	8.25–8.75	5	8.43	6.53	1.90
	8.75 and Over	11	9.34	6.50	2.84

Table 53 (p. 217), on the other hand, requires a word of explanation. Outwardly it is the same as Table 50, for instance. Both have to do with the relations between total expense and gross earnings ratios. In Table 50, however, the percentage deviations in the respective correlated series are taken from the six-year averages of the banks by cities. In Table 53, on the other hand, the percentage differences, bank by bank, are taken from the yearly averages of the respective bank-class groups to which the banks belong. This table gives the total or the average result, as the case may be, of pairing the deviations year by year for each bank-class group, summarizing the pairing by groups for the entire period, and lastly combining all groupings into total or average amounts.[1] That is, rather than compare the ratios of banks with their respective averages, the banks are compared with each other, the yearly averages by bank-class groups constituting such standards. In order to bring the data used in the text within manageable form, only the totals for three years, 1925–1927, are here presented. For the individual years, however, frequency surfaces are given in the Appendix, pages 452–454. In each of the years positive correlation is marked. Moreover, it obtains for the combined years when the banks are classified in other ways.[2]

Despite the differences just noted in preparing Tables 50 and 53, they indicate the same general relations between the correlated variables. These are as follows for California member banks:

When gross earnings ratios are high (low),
  ratios of total expense are high (low).

When total expense ratios are high (low),
  ratios of gross earnings are high (low).

The higher (lower) the ratios of gross earnings (total expense),
  the higher (lower) are the ratios of total expense (gross earnings).

Observe, however, that the percentage differences of the total expense ratios which are low—when gross earnings ratios are high—are greater than are those of the total expense ratios which are high—when gross earnings ratios are low. That is, total expense ratios seem to be less under control—or are less controlled—when gross earnings ratios are high than they are when gross earnings ratios are low. In this respect conditions are the same for the California banks as they are for national institutions for the country generally (Table 50).[3]

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[1] See pages 368–371 for a more detailed statement of the method of preparing these and other tables.

[2] See Appendix, pp. 451, and 455–456.

[3] See pp. 307–343 for a further discussion of these phenomena.

TABLE 53

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—GROSS EARNINGS TO EARNING ASSETS AND TOTAL EXPENSE TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages for the Respective Bank Classes)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	4	..	1	..	..	..	..	..	..	..	..	..	5	+55.00	+51.00
Above	40.00–50.00	1	1	..	..	1	1	..	1	..	..	..	..	5	+45.00	+21.00
the	30.00–40.00	6	2	3	3	1	..	2	..	..	..	..	..	17	+35.00	+35.59
Aver-	20.00–30.00	3	7	5	8	7	5	3	..	1	..	..	..	39	+25.00	+24.23
age	10.00–20.00	..	..	9	17	29	24	22	3	1	..	..	..	105	+15.00	+10.62
	Under 10.00	..	..	3	21	37	58	43	11	3	2	..	..	178	+ 5.00	+ 5.34
	Under 10.00	..	..	..	4	22	58	84	50	21	7	3	..	249	— 5.00	— 5.44
Below	10.00–20.00	..	..	..	..	5	18	32	50	31	8	1	1	146	—15.00	—13.01
the	20.00–30.00	..	..	..	..	..	..	5	13	14	2	..	..	34	—25.00	—18.82
Aver-	30.00–40.00	..	..	..	..	..	..	..	..	1	2	1	..	4	—35.00	—35.00
age	40.00–50.00	..	..	..	..	..	..	..	..	..	..	1	..	1	—45.00	—45.00
Total	No. of Bank-Years	14	10	21	53	102	164	191	128	72	21	6	1	783 / 783		
Total: Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
Total: Average Percentage Differences	Ratios: Gross Earnings to Earning Assets (Net)	+39.28	+29.00	+20.71	+12.17	+ 6.76	+ 1.59	— 1.75	— 9.22	—12.50	—12.62	—18.33	—15.00			

TABLE 54

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for National Unit Banks and National Banks with Branches, Members of the Federal Reserve System, in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank Classes)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	4	..	..	..	..	..	..	..	..	..	.		4	+55.00	+55.00
Above	40.00–50.00	1 65.21	1	..	..	1	1	..	1	..	..	..	..	5	+45.00	+21.00
the	30.00–40.00	4	2	3	2	1	..	2	..	..	..	..	..	14	+35.00	+33.57
Aver-	20.00–30.00	3	6	5	7	6	4	3	..	1	..	..	..	35	+25.00	+24.43
age	10.00–20.00	..	..	9	17 62.36	25	22	21	3	1	..	..	..	98	+15.00	+10.71
	Under 10.00	..	..	3	18	31	49	38	10	3	2	..	..	154	+ 5.00	+ 5.07
Below	Under 10.00	..	..	..	4	22	53	72	44	21	7	3	..	226	— 5.00	— 5.44
the	10.00–20.00	..	..	..	..	5	17	32 68.63	41	29	8	1	1	134	—15.00	—12.84
Aver-	20.00–30.00	..	..	..	..	..	..	5	11	12	1	..	..	29	—25.00	—18.10
age	30.00–40.00	..	..	..	..	..	..	..	..	1	2 66.67	..	..	3	—35.00	—31.67
Total	No. of Bank-Years	12	9	20	48	91	146	173	110	68	20	4	1	702 702		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+40.00	+29.44	+19.00	+11.88	+ 6.32	+ 1.37	— 1.82	— 8.82	—12.06	—12.00	— 7.50	—15.00			

Positive correlation between the relative positions of ratios of total expense (gross earnings) and ratios of gross earnings (total expense), which characterizes the California member banks as a whole, is found for those of different size, for those located in different-sized cities, and for those of different types irrespective of location and of size. This latter fact, for national unit banks and national banks with branches, is indicated in the alignment of the arrays and in the summaries of Table 54. For state unit banks and state banks with branches, it is illustrated in Table 55 (p. 220). Both of these tables have been blocked so as to emphasize the prevailing tendencies, the proportions of the paired variables, by lines, being inserted in bold type. Observe that for national unit banks and for those with branches, essentially two-thirds of the cases, in the "high" "high" and in the "low" "low" quarters having given percentage differences in ratios of gross earnings have percentage differences of the same type and amount in ratios of total expense. For state unit and state banks with branches, the proportions are even higher, the range being from 75 to 100 per cent. There can be no question as to the generalization for California members that

> When ratios of gross earnings (total expense) are high (low), ratios of total expense (gross earnings) are high (low); and
>
> The higher (lower) the ratios in one series, the higher (lower) are those in the other.

These facts, for various bases of classifying California member banks, are summarized by net average percentage amounts in Table 56 (pp. 222–223). By positions alone, there are no exceptions to the rule; for dispersion classes, there is but one. Net average differences for ratios in other series corresponding to given average differences in ratios of gross earnings are presented in the Appendix, Tables 131–143, pages 457–469.

As was observed earlier, it tends to be true for national banks, by cities, that when gross earnings ratios are high (low), ratios of net earnings are high (low), and vice versa. This fact, illustrated in Table 51 for these institutions, is measurably true also for California banks as is shown in Table 57 (p. 224). In this case, however, wide dispersion obtains in the ratios of net earnings for each class difference in gross earnings. The contrary

TABLE 55

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for State Unit Banks and State Banks with Branches, Members of the Federal Reserve System, in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank Classes)

Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*		Ratios: Total Expense to Earning Assets *(Percentage Differences)*											Total		
		Number of Bank-Years											No. of Bank-Years	Average Percentage Differences	
		Above the Average :						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	..	..	1	..	..	..	.	..	..	..	..	1	+55.00	+35.00
	40.00–50.00	75.00	..	..	..	..	..		..	..	..	..	..	....	....
	30.00–40.00	2	..	..	1	..	..	..	..	..	..	..	3	+35.00	+45.00
	20.00–30.00	..	1	..	1	1	1	.	..	..	..	..	4	+25.00	+22.50
	10.00–20.00	..	..	..	77.14	4	2	1	..	..	..	..	7	+15.00	+ 9.29
	Under 10.00	..	..	..	3	6	9	5	1	..	..	..	24	+ 5.00	+ 7.08
Below the Average	Under 10.00	..	..	..	..	..	5	12	6	..	..	..	23	— 5.00	— 5.43
	10.00–20.00	..	..	..	..	..	1	82.50	9	2	..	..	12	—15.00	—15.00
	20.00–30.00	..	..	..	..	..	..	..	2	2	1	..	5	—25.00	—23.00
	30.00–40.00	..	..	..	..	..	..	..	..	..	..	1	1	—35.00	—45.00
	40.00–50.00	..	..	..	..	..	..	..	..	..	100.00	1	1	—45.00	—45.00
Total	No. of Bank-Years	2	1	1	5	11	18	18	18	4	1	2	81 81		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+35.00	+25.00	+55.00	+15.00	+10.45	+ 3.33	— 1.11	—11.67	—20.00	—25.00	—40.00			

condition, moreover, is also true. The first of the generalizations comes from observing the arrays in the lines; the second, from the arrays in the columns of Table 57. If association is determined by preponderance of cases or by net average amounts, positive correlation—although relatively low—is present. Furthermore, it holds for each of the years 1925, 1926, and 1927.[1] Moreover, for California members, for Boston district members, and for national banks for the country generally

> Net earnings ratios are relatively more frequently low when gross earnings ratios are high, than they are high when gross earnings ratios are low.

Both of these relationships, however, are exceptions to the rules. Data for the former fact, contrasted with similar relations for total expense ratios (except for Boston district members), may be summarized as follows:

Types of Banks	Ratios: Gross Earnings to Earning Assets	Number of Bank-Years	Percentage of Cases			
			Ratios: Total Expense to Earning Assets		Ratios: Net Earnings to Earning Assets	
			Above the Average	Below the Average	Above the Average	Below the Average
California Members by Bank Classes, 1925–1927	Above the Average	349	.....	26.36	.....	39.26
	Below the Average	434	24.65	.....	38.48	.....
National Banks by Cities, 1922–1927	Above the Average	192	.....	18.75	.....	27.08
	Below the Average	192	17.18	.....	20.31	.....
Boston, District I, Members,* 1924–1925	Above the Average	334	.....	30.54	.....	36.22
	Below the Average	486	33.54	.....	35.19	.....

* Cf. Tables 159 and 189 in Secrist, *Banking Standards under the Federal Reserve System* (A. W. Shaw Company, Chicago, 1928).

The differences, however, are small, except in the case of the national banks. That the relations just presented are exceptional

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[1] See the frequency surfaces, Appendix, pp. 471–473.

TABLE

Correlation of Percentage Differences of Bank Ratios for Individual

Independent Variable: Gross Earnings to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
			1	2	3	4	5	6	7	8	9	10
Above the Average	Total	Number of Bank-Years	351	....	349	....	310	....	39	....	34	....
		Independent Variable: Av.	...	+13.06	...	+13.00	...	+13.06	..	+12.44	..	+14.41
		Dependent Variable: Av.	...	+11.52	...	+11.39	...	+11.22	..	+12.69	..	+12.06
	50.00 and over	55.00	5	+53.00	5	+51.00	4	+55.00	1	+35.00	..	....
	40.00–50.00	45.00	7	+30.71	5	+21.00	5	+21.00	..	....	1	+ 5.00
	30.00–40.00	35.00	14	+34.28	17	+35.59	14	+33.57	3	+45.00	4	+40.00
	20.00–30.00	25.00	45	+22.11	39	+24.23	35	+24.43	4	+22.50	4	+15.00
	10.00–20.00	15.00	98	+11.43	105	+10.62	98	+10.71	7	+ 9.29	8	+10.00
	Under 10.00	5.00	182	+ 5.33	178	+ 5.34	154	+ 5.07	24	+ 7.08	17	+ 6.18
Below the Average	Under 10.00	5.00	248	— 5.81	249	— 5.44	226	— 5.44	23	— 5.43	38	— 5.26
	10.00–20.00	15.00	148	—13.11	146	—13.01	134	—12.84	12	—15.00	14	—14.29
	20.00–30.00	25.00	32	—20.00	34	—18.82	29	—18.10	5	—23.00	2	—25.00
	30.00–40.00	35.00	4	—35.00	4	—35.00	3	—31.67	1	—45.00	..	....
	40.00–50.00	45.00	...	....	1	—45.00	...	....	1	—45.00	..	....
	Total	Number of Bank-Years	432	....	434	....	392	....	42	....	54	....
		Dependent Variable: Av.	...	— 9.63	...	— 9.40	...	— 9.11	..	—12.14	..	— 8.33
		Independent Variable: Av.	...	—10.18	...	—10.30	...	—10.13	..	—11.90	..	— 8.33

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV..............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

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MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927 COMBINED
Dependent Variable: Total Expense to Earning Assets

Various Yearly Averages)

in Ratios: Total Expense to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**
345	....	158	....	99	....	88	....	368	....	223	....	84	....	61	....
...	+12.91	...	+12.40	...	+13.79	...	+12.84	...	+12.96	...	+13.56	...	+10.71	...	+13.85
...	+10.74	...	+10.38	...	+10.05	...	+12.16	...	+10.49	...	+10.42	...	+10.12	...	+11.23
7	+42.14	3	+51.67	3	+31.67	1	+45.00	7	+42.15	5	+51.00	1	— 5.00	1	+45.00
5	+35.00	...	....	3	+41.67	2	+25.00	6	+33.33	2	+55.00	2	+10.00	2	+35.00
13	+41.15	7	+47.86	4	+37.50	2	+25.00	18	+32.78	12	+37.50	1	+25.00	5	+23.00
37	+18.78	15	+23.00	10	+12.00	12	+19.17	39	+22.95	27	+22.78	6	+26.67	6	+20.00
105	+12.43	51	+ 9.90	28	+12.50	26	+17.31	102	+ 9.51	68	+ 7.50	20	+13.00	14	+14.29
178	+ 3.93	82	+ 3.66	51	+ 3.04	45	+ 5.44	196	+ 4.64	109	+ 3.53	54	+ 7.22	33	+ 4.08
257	— 5.04	108	— 4.91	78	— 5.51	71	— 4.72	251	— 5.96	139	— 7.66	68	— 5.15	44	— 1.82
141	—12.94	60	—13.50	39	—11.67	42	—13.33	137	—13.25	81	—12.90	28	—14.64	28	—12.86
37	—16.89	18	—18.33	12	—15.00	7	—16.43	24	—18.33	17	—15.59	3	—18.33	4	—30.00
3	—35.00	...	....	1	—35.00	2	—35.00	3	—35.00	1	—35.00	...	....	2	—35.00
...	....	...	....	...	....	...	....	...	....	...	....	...	....	...	....
438	....	186	....	130	....	122	....	415	....	238	....	99	....	78	....
...	— 8.79	...	— 8.98	...	— 8.46	...	— 8.85	...	— 9.29	...	—10.13	...	— 8.23	...	— 8.08
...	—10.11	...	—10.16	...	—10.08	...	—10.08	...	— 9.43	...	— 9.96	...	— 8.43	...	—10.38

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

TABLE 57

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages for the Respective Bank Classes)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*) Position	Percentage Groups	Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years: Above the Average 50.00 and Over	Above 40.00–50.00	Above 30.00–40.00	Above 20.00–30.00	Above 10.00–20.00	Above Under 10.00	Below the Average Under 10.00	Below 10.00–20.00	Below 20.00–30.00	Below 30.00–40.00	Below 40.00–50.00	Below 50.00 and Over	Total: No. of Bank-Years	Total: Average Percentage Differences: Ratios: Gross Earnings to Earning Assets	Total: Average Percentage Differences: Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	2	..	1	1	..	..	..	..	..	..	1	..	5	+50.00	+ 3.50
	40.00–50.00	4	..	..	..	..	1	..	..	..	..	..	..	5		
	30.00–40.00	6	1	..	1	1	..	1	..	1	2	1	3	17	+30.00	+10.36
	20.00–30.00	12	2	3	4	1	1	2	3	2	4	2	3	39		
	10.00–20.00	34	6	7	9	13	6	3	9	5	4	6	3	105	+10.00	+ 6.84
	Under 10.00	16	7	6	22	16	29	20	14	9	10	9	20	178		
Below the Average	Under 10.00	23	11	16	17	21	32	18	22	27	17	15	30	249	—10.00	— 7.88
	10.00–20.00	6	2	3	10	10	13	18	17	12	13	10	32	146		
	20.00–30.00	..	..	1	..	..	1	3	7	3	1	5	13	34	—30.00	—32.63
	30.00–40.00	..	..	..	..	1	..	..	1	..	..	..	2	4		
	40.00–50.00	..	..	..	..	..	..	..	1	..	..	..	..	1	—45.00	—15.00
Total	No. of Bank-Years	103	29	37	64	63	83	65	74	59	51	49	106	783 / 783		
Total: Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
Total: Average Percentage Differences	Ratios: Gross Earnings to Earning Assets (Net)	+9.92		+3.12		—0.21		—3.93		—2.08		—5.00				

is seen from the following proportional amounts which are the complements of those given on page 221.

			Percentage of Cases			
			Ratios: Total Expense to Earning Assets		Ratios: Net Earnings to Earning Assets	
Types of Banks	Ratios: Gross Earnings to Earning Assets	Number of Bank-Years	Above the Average	Below the Average	Above the Average	Below the Average
California Members by Bank Classes, 1925–1927	Above the Average ..	349	73.64	.....	60.74	.....
	Below the Average ..	434	.....	75.35	.....	61.52
National Banks by Cities, 1922–1927	Above the Average ..	192	81.25	.....	72.92	.....
	Below the Average ..	192	.....	82.82	.....	79.69
Boston, District I, Members,* 1924–1925	Above the Average ..	334	69.46	.....	63.78	.....
	Below the Average ..	486	.....	66.46	.....	64.81

* Cf. Tables 159 and 189 in Secrist, *Banking Standards under the Federal Reserve System.*

When from 60 to 83 per cent of the paired percentage differences agree as to sign of deviation, it is safe to conclude that a rule is operative. Moreover, when several bodies of data, covering different areas and applying to different years, support each other, the evidence of basic relationships is cumulative. Indeed, the case is further strengthened when for a non-homogeneous mass of data, as for instance for the member banks in California, it is found that by geographical areas, by size and type of institutions, and by size of city of location the same order of association obtains. In the latter connection, the net percentage differences given in Table 58 (pp. 226–227), and the frequency surfaces in the Appendix[1] are of interest. To the rule that "when gross earnings ratios are high (low), net earnings ratios are high (low)," there are no exceptions in Table 58, for the average amounts, and but four when gross earnings ratios are distinguished by dispersion classes. Moreover, it is generally true for California banks, howsoever classified, that the higher (lower) the gross earnings (net earnings) ratios, the higher (lower) are the ratios of net earnings (gross earnings).

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[1] See pp. 470, and 474–475.

TABLE

Correlation of Percentage Differences of Bank Ratios for Individual

Independent Variable: Gross Earnings to Earning Assets

(Deviations Taken from

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variable—Net Percentage Differences									
			From All-Bank Av.		From Bank-Class Averages							
Position	Distance from Averages		All Banks		All Banks		National Banks		State Banks		Banks with Branches	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
			1	2	3	4	5	6	7	8	9	10
Above the Average	Total	Number of Bank-Years	351	....	349	....	310	....	39	....	34	....
		Independent Variable: Av.	...	+13.06	...	+13.00	...	+13.06	..	+12.44	..	+14.41
		Dependent Variable: Av.	...	+ 8.02	...	+ 8.21	...	+ 8.68	..	+ 4.49	..	+ 5.59
	40.00 and over	+50.00	12	+20.83	10	+35.00	9	+32.78	1	+55.00	1	+55.00
	20.00–40.00	+30.00	59	+16.69	56	+10.36	49	+11.12	7	+ 5.00	8	+21.25
	Under 20.00	+10.00	280	+ 5.64	283	+ 6.84	252	+ 7.34	31	+ 2.74	25	— 1.40
Below the Average	Under 20.00	—10.00	396	— 8.11	395	— 7.88	360	— 8.31	35	— 3.57	52	— 6.54
	20.00–40.00	—30.00	36	—33.33	38	—32.63	32	—36.65	6	—11.67	2	—15.00
	40.00 and over	—50.00	...	....	1	—15.00	...	....	1	—15.00	..	....
	Total	Number of Bank-Years	432	....	434	....	392	....	42	....	54	....
		Dependent Variable: Av.	...	—10.21	...	—10.06	...	—10.61	..	— 5.00	..	— 6.85
		Independent Variable: Av.	...	—10.18	...	—10.30	...	—10.13	..	—11.90	..	— 8.33

* City Sizes	Population (1920)
I and II..................	Under 2,500
III and IV.............	2,500 to 15,000
V, VI, and VII..........	15,000 and over

The foregoing discussion of the relations between variable ratios of total expense and of net earnings and variable ratios of gross earnings has had to do with (1) the ratios themselves and (2) percentage differences from type. But the association may be analyzed further, account being taken of the nature and amount of change of the ratios in the respective series. In doing so, it is necessary to remember that the ratios regress to type, it being the rule that when ratios are high they tend to fall, and that when they are low they tend to rise. This pattern of change characterizes them as independent series. If, in one series, ratios

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MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927 COMBINED
Dependent Variable: Net Earnings to Earning Assets
Various Yearly Averages)

in Ratios: Net Earnings to Earning Assets

From City-Group Averages*								From Volume-Group Averages†							
All Banks		I and II		III and IV		V, VI, and VII		All Banks		I		II and III		IV, V, and VI	
No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
345	....	158	....	99	....	88	....	368	....	223	....	84	....	61	....
...	+12.91	...	+12.40	...	+13.79	...	+12.84	...	+12.96	...	+13.56	...	+10.71	...	+13.85
...	+ 8.86	...	+ 8.10	...	+10.76	...	+ 8.07	...	+ 7.96	...	+ 7.42	...	+ 6.31	...	+12.21
12	+24.17	3	+48.33	6	− 3.33	3	+55.00	13	+33.46	7	+15.00	3	+55.00	3	+55.00
50	+16.80	22	− 0.91	14	+27.14	14	+34.29	57	+12.19	39	+ 5.77	7	+13.57	11	+34.09
283	+ 6.80	133	+ 8.68	79	+ 8.92	71	+ 0.92	298	+ 6.04	177	+ 7.49	74	+ 3.65	47	+ 4.36
398	− 8.85	168	− 8.39	117	− 9.96	113	− 8.36	388	− 8.99	220	− 8.82	96	− 7.60	72	−11.39
40	−26.75	18	−32.22	13	−40.38	9	+ 3.89	27	−36.48	18	−43.89	3	−38.33	6	−13.33
...	....	...	....	...	....	...	....	...	....	...	....	...	....	...	....
438	....	186	....	130	....	122	....	415	....	238	....	99	....	78	....
...	−10.48	...	−10.70	...	−13.00	...	− 7.46	...	−10.78	...	−11.47	...	− 8.54	...	−11.54
...	−10.11	...	−10.16	...	−10.08	...	−10.08	...	− 9.43	...	− 9.96	...	− 8.43	...	−10.38

† Volume Groups	Average Earning Assets (1925–1927)
I	Under $1,000,000
II and III............	$1,000,000–$3,000,000
IV, V, and VI........	$3,000,000 and over

which are high (low) are associated with those in others which are high (low), as is the case with those under discussion, and at the same time the individual series regress to type, then it may reasonably be expected that, when the nature and percentage amounts of change in the series are correlated, the association will be positive. This expectation is strikingly realized in the case of total expense and gross earnings ratios, and measurably so for ratios of net earnings and of gross earnings.

For national banks, by cities, the nature and degree of association between ratios of total expense and of gross earnings are

TABLE 59

Correlation of Percentage Year-to-Year Changes of Ratios in Paired Series — Gross Earnings to Earning Assets and Total Expense to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

Ratios: Gross Earnings to Earning Assets (Percentage Changes)		Ratios: Total Expense to Earning Assets (Percentage Changes)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Change	
		Increases						Decreases								
Direction of Change	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Increases	25.00 and over	6	..	1	..	..	..	..	..	..	..	..	..	7	+39.36	+37.42
	20.00–25.00	1	1	1	..	..	1	2	..	..	..	..	..	6	+22.62	+15.93
	15.00–20.00	..	3	3[o]	2	2	3	..	..	..	..	..	..	13	+17.11	+13.30
	10.00–15.00	..	3	4	4[sf][la]	3	1	..	..	..	..	..	..	15	+11.93	+13.90
	5.00–10.00	..	1	3	11[sf]	9[la]	9[o]	5	1	..	..	..	..	39	+ 6.97	+ 6.75
	Under 5.00	1	1	1	3	7[o]	29[la]	15	6	..	..	..	..	63	+ 2.04	+ 2.62
Decreases	Under 5.00	..	..	..	..	3	14	25	7	2	..	..	1	52	— 2.42	— 2.24
	5.00–10.00	..	..	..	1	2	7	18[sf][la]	19[o]	5	..	..	..	52	— 7.19	— 4.21
	10.00–15.00	..	..	..	..	..	2	6	9	8	6	1	..	32	—11.55	— 9.60
	15.00–20.00	..	..	..	..	..	..	2	3	5[sf][o]	5	3	1	19	—17.18	—15.07
	20.00–25.00	..	..	..	..	..	..	2	..	2	..	6	2	12	—22.13	—18.95
	25.00 and over	..	..	..	..	..	..	..	..	..	1	3	6[sf]	10	—34.49	—29.12
Total	No. of City Bank-Years	8	9	13	21	26	66	75	45	22	12	13	10	320 320		
Average Percentage Change	Ratios: Total Expense to Earning Assets	+43.00	+21.72	+17.66	+11.98	+ 7.12	+ 2.02	— 2.47	— 7.33	—12.85	—17.28	—22.25	—32.44			
	Ratios: Gross Earnings to Earning Assets (Net)	+34.62	+13.83	+13.59	+ 7.82	+ 4.60	+ 1.42	— 3.02	— 6.40	—12.24	—16.21	—21.43	—29.12			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

illustrated in Table 59. If, independent of each other, ratios did not regress to type, the association here depicted might be explained on the cost basis outlined above, the argument of which is that to make money, costs money—costs being primarily the interest paid on deposits, and the return being that arising primarily through interest on loans. But, as has been indicated, this line of reasoning over-simplifies the situation. Neither does the contention that, under conditions of increasing gross earnings expenses are allowed to increase, and, in times of decreasing gross earnings, retrenchments are made, fully account for the types of association, and this for reasons already presented. The occasion for the similarity of change, while undoubtedly partly due to the conditions just noted, is probably found in competitive conditions affecting both the earning assets and the deposits, and through them in a similar way the gross returns and the expenses of operation. Both of the latter are residual to a host of prior circumstances, the similarity of the year-to-year changes of these residuals being probably traceable to a common cause, arising from competitive effort. To establish this fact is difficult if not impossible, and no attempt will here be made to do so. Later, however, certain aspects of the problem are again considered. It suffices for present purposes to record the fact that

As ratios of gross earnings (total expense) increase (decrease), so also do ratios of total expense (gross earnings); and

The greater the increase (decrease) in the one, the greater the increase (decrease) in the other, and vice versa.

These conditions hold not only for national banks by cities[1] but also for the California member banks.[2]

Not only do gross earnings and total expense ratios regress to type but so also do those of net earnings. Accordingly, with ratios in the latter series positively correlated, both by actual amount and by percentage deviations from type, with ratios of gross earnings, positive correlation of the paired year-to-year changes in the respective series is to be expected. This is the

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[1] For the nature of the association for national banks in the cities in the Twelfth District, see Appendix, p. 476. The nature and the net amount of change in various series with given changes in ratios of gross earnings for national banks are summarized in the Appendix, Table 151, page 477.

[2] See Chart, p. 330, and the accompanying discussion.

TABLE 60

Correlation of Percentage Year-to-Year Changes of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets In National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

Ratios: Gross Earnings to Earning Assets (*Percentage Changes*)		Ratios: Net Earnings to Earning Assets (*Percentage Changes*)										Total		
		Number of City Bank-Years										No. of City Bank-Years	Average Percentage Change	
		Increases					Decreases							
Direction of Change	Percentage Groups	40.00 and Over	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 and over		Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
In-	25.00 and over	4	..	1	1	..	1	..	..	..	..	7	+39.36	43.13
	20.00–25.00	3	..	2	..	..	..	..	..	..	1	6	+22.62	+43.28
	15.00–20.00	4	2	1	2	4^{o}	..	..	..	..	..	13	+17.11	+42.68
creases	10.00–15.00	1	1	1	3	3^{sfla}	3	3	..	..	..	15	+11.93	+ 7.57
	5.00–10.00	2	2	6	7^{la}	11^{o}	6^{sf}	3	1	1	..	39	+ 6.97	+ 8.89
	Under 5.00	2	1	9	8	16	16^{ola}	7	1	2	1	63	+ 2.04	+ 3.18
De-	Under 5.00	1	..	2	4	13	16	13	2	1	..	52	— 2.42	— 2.01
	5.00–10.00	..	..	1	3	7^{o}	8	15^{sfla}	13^{la}	4	1	52	— 7.19	—13.10
	10.00–15.00	..	..	..	1	4	7	5	13	1	1	32	—11.55	—14.76
creases	15.00–20.00	1	..	..	1	1	1	5	5^{sfo}	3	2	19	—17.18	—12.37
	20.00–25.00	1	..	..	..	..	1	4	1	2	3	12	—22.13	—24.44
	25.00 and over	..	..	..	..	..	..	..	1	3^{sf}	6	10	—34.49	—43.80
Total	No. of City Bank-Years	19	6	23	30	59	59	55	37	17	15	320 320		
Average Percentage Change	Ratios: Net Earnings to Earning Assets	+75.68	+33.96	+23.36	+14.80	+ 4.87	— 4.55	—14.04	—25.06	—34.39	—51.46			
	Ratios: Gross Earnings to Earning Assets (Net)	+16.27	+ 9.70	+ 6.69	+ 4.11	+ 1.39	— 1.35	— 5.55	—10.50	—14.24	—20.18			

^{sf} San Francisco
^{o} Oakland
^{la} Los Angeles

condition found for the banks the ratios of which are being discussed. The type and degree for national banks are shown in Table 60.[1] Observe that the spread of the distribution in this table is greater than that in Table 59, but that in both the alignment and the net average amounts indicate positive correlation. That is,

If gross earnings ratios increase, so also generally do
those of total expense and of net earnings.

If gross earnings ratios decrease, so also generally do
those of total expense and of net earnings.

Moreover,

The greater the increase in ratios of gross earnings,
the greater is that in ratios of total expense and of net earnings.

The greater the decrease in ratios of gross earnings,
the greater is that in ratios of total expense and of net earnings.

All of which seems to indicate that, for the overwhelming number of instances, increases in total expense ratios associated with increases in gross earnings ratios are not sufficient to occasion decreases in ratios of net earnings. Similarly, decreases in total expense ratios associated with decreases in ratios of gross earnings seemingly have the effect in the majority of the cases of occasioning decreases in net earnings ratios. But these conclusions do not follow from Tables 59 and 60 because the respective ratios are not *simultaneously* considered. When this is done, however, this conclusion holds[2] not only for national banks by cities for the country generally but also for California member banks.

It is worth while to set out on a proportional basis and in summary form the quadrant totals of Tables 59 and 60 and certain of those from a corresponding analysis for member banks in the Boston district. They are given on page 232. Observe that there is a greater tendency for expense ratios to decrease when gross earnings ratios decrease than there is for them to increase when changes of the same sort occur in ratios of gross earnings, all of which seems to indicate that retrenchment is more generally practiced than extravagances are indulged in.

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[1] See also the frequency surface and the summary table for national banks in cities in the Twelfth District, Appendix, Tables 152 and 153, pp. 478–479.

[2] See pp. 327–343.

But in these, as in other correlations between the series under consideration, neither extravagance nor penuriousness in the matter of expense accounts for the close associations of this series with that of gross earnings. The ratios are in a very real sense functions of all of the antecedent conditions which govern the composition of loans and of deposits and determine the relations between them. These are found in the state of trade, in competition between banks for loans and for deposits, and in the use that is made of them. The outcome of the entire banking policy under these conditions is a gross return, part of which is used to pay operating expenses and part of which, with private ownership, is returned directly or indirectly to the owners. It is the size of this latter part which determines relative business success or failure and upon which the attention of management is focused. It was the thought of directing the attention of those in control, to the stable relationships between the results of differing managements and bank policies, as they are reflected in basic ratios, which determined certain phases of this analysis. In the matter now under consideration, whatever may be the complete explanation of the phenomena discovered, it is commonly, if not universally, true that

Types of Banks	Ratios: Gross Earnings to Earning Assets	Number of Bank-Years	Ratios: Total Expense to Earning Assets	
			Increasing	Decreasing
California Members, 1925–1927	Increasing	205	66.82	.....
	Decreasing	201	.....	68.67
National Banks by Cities, 1922–1927	Increasing	143	79.72	.....
	Decreasing	177	.....	83.62
Boston, District I, Members,* 1924–1925	Increasing	242	57.43	.....
	Decreasing	166	.....	63.85

1. When gross earnings ratios are high (low), ratios of total expense and of net earnings are high (low).
2. When ratios of total expense and of net earnings are high (low), gross earnings ratios are high (low).

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* Cf. Table 193, p. 331, of Secrist, *Banking Standards under the Federal Reserve System* (A. W. Shaw Company, Chicago, 1928).

3. The higher (lower) the ratios of gross earnings, the higher (lower) are ratios of total expense and of net earnings.
4. The higher (lower) the ratios of total expense and of net earnings, the higher (lower) are ratios of gross earnings.
5. When ratios of gross earnings increase (decrease), so also do those of total expense and of net earnings.
6. When ratios of total expense and of net earnings increase (decrease), so also do those of gross earnings.
7. The greater the increase (decrease) of ratios of gross earnings, the greater the increase (decrease) of ratios of total expense and of net earnings.
8. The greater the increase (decrease) of ratios of net earnings and of total expense, the greater the increase (decrease) of gross earnings.

But,

9. Increasing total expense ratios, which normally accompany increasing ratios of gross earnings, generally result in increasing ratios of net earnings, and
10. Decreasing ratios of total expense, which normally go with decreasing ratios of gross earnings, customarily result in ratios of net earnings being lowered.

Accordingly,

In order to secure relatively high net earnings ratios or to be relatively certain that those secured will be higher than those formerly received, it is seemingly more important to have relatively high gross earnings than relatively low total expense, and to increase gross earnings ratios rather than to reduce those of expense.[1]

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[1] But see the discussion, *infra,* pp. 307–343.

CHAPTER VIII

RATIOS OF TOTAL EXPENSE TO EARNING ASSETS AND TO GROSS EARNINGS

The immediately foregoing chapter was concerned with the amounts of and changes in ratios of gross earnings to earning assets for banks and for groups of banks operating under the Federal Reserve System. The present one pertains to a study of the total operating expenses of such institutions. For this purpose the basic data relate to the banks the ratios of which have already been discussed. A comparative analysis makes it necessary to express the amounts of total expense as ratios, and for this purpose the earning assets and the gross earnings are selected as bases. Use of the first base defines the amounts relative to each one hundred dollars of earning assets; that of the second expresses proportionally their relation to the gross receipts.

Unfortunately, data showing the amounts of the different items, which together make up total expenses, are not available for the individual institutions in California. Inasmuch as it is one of the major purposes of the study to compare the expenses of banks in the Twelfth District and in California with those in other parts of the country, the study perforce is restricted to a consideration of the total amounts.[1]

Relative to each $100 of earning assets, the average amount of total expense of national banks in the sixty-four Central Reserve, Reserve, and Other Reserve cities, for the years 1922 to 1927 combined, is $4.77. That is, the ratio is 4.77 per cent. This average tends also to be typical, 28 per cent of all of the cities during these years having ratios falling within the group, "4.75 to 5.25" per cent. The extreme groups—"Less than 4.25" per cent, and "5.75 and Over" have 27 and 11 per cent, respectively, of the cases. During the years under review, the ratios of certain of the cities characteristically fall in the lower and those of other cities in the higher brackets. Consistency of position is everywhere present. Relative to the entire range of the amounts, certain cities are not low in one year and high in others, or vice versa, but generally high or generally low. Moreover, geographical differences are present throughout the period, their nature being indicated by the amounts given on page 562 of the Appendix.

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[1] The relations of the different operating expenses to earning assets and to total expenses for member banks by districts are given for the years 1919 to 1925 in H. Secrist, *Banking Standards under the Federal Reserve System.* Moreover, attention is there directed to the rates of change in these amounts during these years and the levels at which the amounts in the different districts stand relative to those for the country as a whole.

For major cities of the country and for eight of these cities in the Twelfth District, the average for the years 1922 to 1927 is $4.77 for each $100 of earning assets. In this district, however, most of the ratios—44 per cent—fall within the group "4.25 to 4.75." This is one-half of one per cent lower than the modal group for the cities as a whole. Moreover, there are relatively fewer high and low ratios in banks in cities in this district than in the cities generally.

Total operating expenses are functions of bank size and type as well as of the size and location of the cities served. Averages do not, therefore, completely describe the actual situation. This functional relationship is clear in matter which follows, in which for California as a part of the Twelfth District ratios are given by size and type of bank and also by bank location. For the years 1922 to 1927, the average ratio for national banks for the eight cities in the Twelfth District—4.77—is higher than that—4.31—for the three major California cities—San Francisco, Los Angeles, and Oakland. Moreover, for each of the six years, 1922 to 1927, the average ratios are lower in these California cities than are those for banks in the eight cities in the Twelfth District, the differences ranging from one-fifth to three-fourths of one per cent.

The situation, then, relative to the levels of ratios of total expense to earning assets in national banks is as follows: (1) The ratios for the sixty-four cities range from "Under 3.75" to "5.75 and Over," the average being 4.77 and the typical group "4.75 to 5.25." (2) The average ratios for the eight cities in the Twelfth District likewise range from "Under 3.75" to "5.75 and Over," the average being the same as for all cities. There are, however, relatively fewer cases at the two extremes, and the modal group for the cities in the Twelfth District is somewhat lower than is that for the sixty-four cities. (3) The average ratios in the three California cities—San Francisco, Los Angeles, and Oakland—are lower than are those for the eight cities in the Twelfth District, this being true for the combined years and for each individual year. In general, (4) for a given period of time, the average ratios of total expense to earning assets vary from one city-group to another, the basis of the differences being in part geographical and in part the size of the institutions and the sizes of the cities in which they are located.

Summaries of the data upon which the foregoing generalizations are based are presented below, the first of which gives the general averages, and the second the distribution of the amounts for the years in question.[1]

Classes of Banks	Ratios: Total Expense to Earning Assets	
	1922–1927	1925–1927
National Banks: 64 Cities	4.77	4.61
National Banks: 8 Cities, Twelfth District	4.77	4.70
National Banks: San Francisco, Los Angeles, and Oakland	4.31	4.29
All Member Banks: California	....	5.53

Ratios: Total Expense to Earning Assets	Percentage of Cases	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 3.75	7.29	4.17
3.75 to 4.25	19.27	10.42
4.25 to 4.75	22.92	43.75
4.75 to 5.25	28.38	22.92
5.25 to 5.75	11.46	12.50
5.75 and Over	10.68	6.24

Differences of the types and amounts in ratios of total expense to earning assets summarized above are also found when total expenses are expressed in terms of gross earnings. The average ratios for the several banking groups[2] are presented on page 237. It will be seen that the ratios for national banks, as judged both by the averages and the distributions, are relatively high in the cities in the Twelfth District as contrasted with those in the country generally. There is, of course, variation from city to city in both areas, and it is necessary, so far as is possible, to take account of this fact. This is done for member banks in California

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[1] Details for California member banks are given later.

[2] Details for member banks in California are given later.

Classes of Banks	Ratios: Total Expense to Gross Earnings	
	1922–1927	1925–1927
National Banks: 64 Cities	72.92	73.59
National Banks: 8 Cities, Twelfth District	73.78	75.09
National Banks: San Francisco, Los Angeles, and Oakland	71.48	73.98
All Member Banks: California	.....	75.90

Ratios: Total Expense to Gross Earnings	Percentage of Cases	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 65.00	10.16	2.08
65.00 to 70.00	20.31	10.42
70.00 to 75.00	35.16	54.17
75.00 to 80.00	20.05	25.00
80.00 and Over	14.32	8.33

for the years 1925 to 1927, the analysis applying to data for individual institutions.

Based upon all banks reporting during these years, the average ratio of total expense to earning assets is 5.53 per cent. In other words, relative to each $100 of earning assets, the average expense of operation is $5.53. Moreover, the averages in the individual years do not deviate from this amount by more than one cent. Such an average, however, takes no account of the variations between banks according to type, size, and location—all matters of significance, as will be seen later—nor does it indicate the degree to which expense ratios depend upon the character of a bank's business.[1]

Different methods of classifying member banks in California reveal varying amounts of operating expenses in relation both to earning assets and to gross earnings. By types of banks, for the three years 1925 to 1927, the average ratios to earning assets are as follows:

Types of Banks	Ratios: Total Expense to Earning Assets
Average	5.53
National Unit	5.50
State Unit	5.82
National Banks with Branches	5.53
State Banks with Branches	5.84

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[1] This matter has already been discussed.

It will be observed (1) that the ratios for national unit banks and for national banks with branches are approximately the same; (2) that they are lower than are those for state units and for state banks with branches; and (3) that the amounts for the two latter groups are almost identical. These several variations are similar to those observed earlier[1] for ratios of gross earnings to earning assets. That is, by bank types, when ratios of total expense are relatively high (low), or vice versa, ratios of gross earnings to earning assets are high (low), or vice versa. This fact is mentioned merely in passing; the degree of association and its implications are considered later.[2]

Moreover, for the years 1925 to 1927, combined, there are differences according to bank type in the ratios of total expense to gross earnings.

Types of Banks	Ratios: Total Expense to Gross Earnings
Average	75.90
National Unit	75.54
State Unit	75.98
National Banks with Branches	78.79
State Banks with Branches	78.39

When total expense is expressed in this manner, as shown above, the unit banks are more cheaply operated than are the banks with branches. Moreover, this condition for the three years 1925 to 1927, combined, holds without exception for each year.

When bank size—as represented by the average amount of earning assets—is considered, it is found that the smaller the institution the larger are the expenses of operation per unit of earning assets. The ratios for banks in the individual and in the combined years are as follows:

Amount of Earning Assets (Average 1925–1927)	Ratios: Total Expense to Earning Assets			
	All Years	1925	1926	1927
Average	5.53	5.54	5.52	5.54
Under $1,000,000	5.74	5.72	5.69	5.82
$1,000,000 to $3,000,000	5.24	5.31	5.28	5.11
$3,000,000 and Over	5.25	5.31	5.28	5.14

[1] See p. 177.

[2] See pp. 315–342.

Similarly, the ratios for the several types of banks, based upon returns for 1925, 1926, and 1927, combined, vary inversely with the average amount of earning assets—a fact shown in the summary immediately below:

Amount of Earning Assets (Average 1925–1927)	Ratios: Total Expense to Earning Assets				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	5.53	5.50	5.82	5.53	5.84
Under $1,000,000	5.74	5.69	6.20	6.06	8.47
$1,000,000 to $3,000,000	5.24	5.18	5.84	5.45	5.55
$3,000,000 and Over	5.25	4.96	5.44	5.44	5.58

Inasmuch as both total expense and gross earnings,[1] when measured in terms of earning assets, vary inversely with bank size, it is of interest to express total expense in terms of gross earnings. This is done below, first, for all banks by years, and, second, for these banks classified according to type, the ratios in the latter case being those for the years 1925 to 1927, combined.

Amount of Earning Assets (Average 1925–1927)	Ratios: Total Expense to Gross Earnings			
	All Years	1925	1926	1927
Average	75.90	76.05	76.07	75.52
Under $1,000,000	77.00	77.07	76.99	76.90
$1,000,000 to $3,000,000	72.67	73.79	72.68	71.17
$3,000,000 and Over	76.55	75.88	77.28	76.44

Amount of Earning Assets (Average 1925–1927)	Ratios: Total Expense to Gross Earnings				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	75.90	75.54	75.98	78.79	78.39
Under $1,000,000	77.00	76.75	77.02	84.09	92.91
$1,000,000 to $3,000,000	72.67	72.26	75.82	74.38	74.39
$3,000,000 and Over	76.55	75.19	75.04	79.77	77.35

Not only are the expenses of operating member banks in California, relative to their earning assets and to their gross earnings, functions of their types and sizes but they are also related to the sizes of the cities, and to the parts of the state in which they are located. Based upon city-size classes, the ratios are as follows:

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[1] See p. 177.

Size of City (1920) in Which Located	Ratios: Total Expense to Earning Assets			
	All Years	1925	1926	1927
Average	5.53	5.54	5.52	5.54
Under 2,500	5.71	5.68	5.70	5.76
2,500 to 15,000	5.41	5.42	5.40	5.41
15,000 and Over	5.38	5.46	5.38	5.29

Size of City (1920) in Which Located	Ratios: Total Expense to Gross Earnings			
	All Years	1925	1926	1927
Average	75.90	76.05	76.07	75.52
Under 2,500	76.17	76.34	75.94	76.27
2,500 to 15,000	74.83	75.18	75.44	73.42
15,000 and Over	76.64	76.60	77.00	76.21

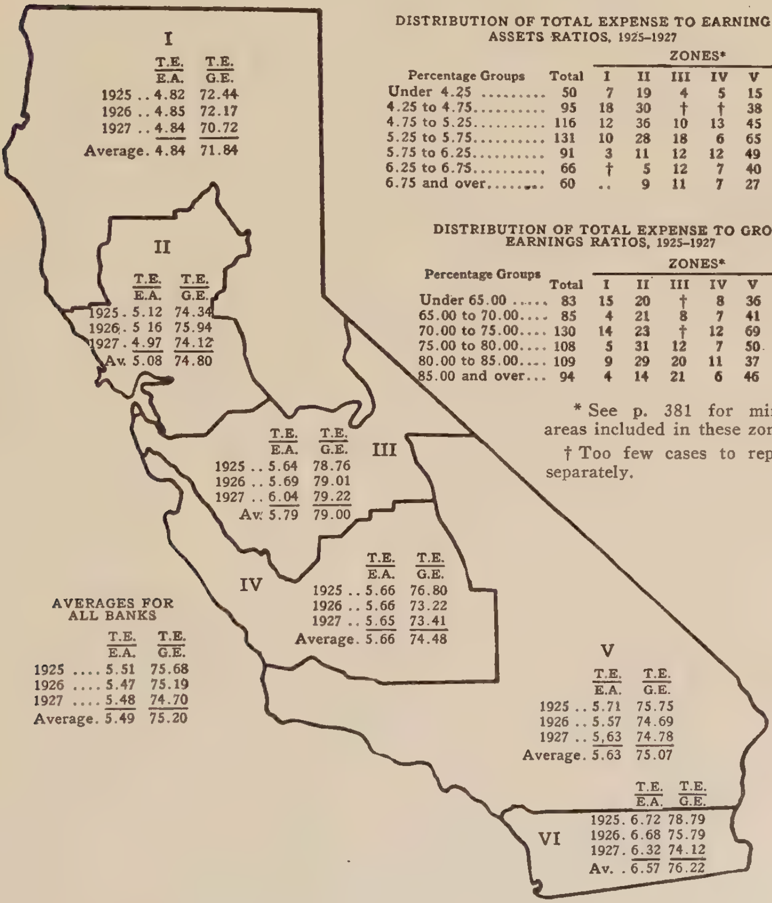
The foregoing averages refer to banks in the state as a unit. But total expense ratios are far from uniform in its different parts. Indeed, differentials seemingly attributable to location are as great as, if not greater than, are those associated with bank size and type and the city of location. There are several ways in which differences in the ratios in the several sections of the state may be summarized. The actual amounts for such sections obviously depend upon the way in which they are combined, and upon the manner in which the ratios for the banks are derived. Accordingly, this part of the study needs detailed treatment.

Chart 54 for each of the years 1925 to 1927 and for the combined years shows the average ratios of total expense to earning assets and to gross earnings for member banks in six zones of the state, these being consolidations of the areas into which the state is divided by the Federal Reserve Bank of San Francisco. This chart supplies averages for each region, differentials within the respective zones—due, among other things, to type and size of bank as well as size of city—being ignored. Despite this averaging process, differences associated with geographical location are apparent, the ratios of total expense to earning assets for each year and for the combined years being low in the north and high in the south. Indeed, the widest variation in these ratios

CHART 54

Average Ratios of Total Expense to Earning Assets and to Gross Earnings, 1925–1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF TOTAL EXPENSE TO EARNING ASSETS RATIOS, 1925–1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 4.25	50	7	19	4	5	15	..
4.25 to 4.75	95	18	30	†	†	38	..
4.75 to 5.25	116	12	36	10	13	45	..
5.25 to 5.75	131	10	28	18	6	65	4
5.75 to 6.25	91	3	11	12	12	49	4
6.25 to 6.75	66	†	5	12	7	40	†
6.75 and over	60	..	9	11	7	27	6

DISTRIBUTION OF TOTAL EXPENSE TO GROSS EARNINGS RATIOS, 1925–1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 65.00	83	15	20	†	8	36	†
65.00 to 70.00	85	4	21	8	7	41	4
70.00 to 75.00	130	14	23	†	12	69	†
75.00 to 80.00	108	5	31	12	7	50	3
80.00 to 85.00	109	9	29	20	11	37	3
85.00 and over	94	4	14	21	6	46	3

* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

is represented by the differences between the averages for Zones I and VI—the difference for the combined years being 1.73

points. Relative to the level in Zone I, this amount represents 36 per cent; relative to that in Zone VI, 26 per cent.[1]

More closely contiguous regions show similar but less marked differences. Compare, for instance, the amounts in Zones II and V, the former district including San Francisco, and the latter, Los Angeles! For the three-year period and for each year, the amounts are lower in Zone II, the difference between the two sections for the combined years being .55 points. Relative to the level in Zone II, this is a difference of 11 per cent; relative to that of Zone V, 10 per cent. Not only are the averages but also the distributions of the individual bank ratios different in the two regions. This is clear from the tabular summary in Chart 54. In Zone II, 62 per cent of the banks have ratios less than 5.25; in Zone V, the corresponding proportion is 35 per cent. Similarly, in Zone II, 38 per cent have ratios of 5.25 and more; in Zone V, the proportion is 65 per cent.

Geographical differences are found when the state is divided into larger regions. For certain consolidations of the sections shown in Chart 54, the averages of the ratios of total expense to earning assets, for the combined years 1925–1927, are as follows, the amounts for Zones I to IV, inclusive, and for V and VI characterizing, respectively, Northern and Southern California:

Zones	Ratios: Total Expense to Earning Assets	Zones	Ratios: Total Expense to Earning Assets
I and II	5.01	I to IV	5.30
III and IV	5.74	V and VI	5.68
V and VI	5.68		

Differences from region to region, similar to those just indicated for ratios of total expense to earning assets, obtain for ratios of total expense to gross earnings. The zone with the lowest ratio is that in the extreme north; the one with the highest is Zone III, that contiguous to but not including San

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[1] These respective differences, as between the ratios in the most northerly and most southerly parts of the state, exceed similar differences, for the years 1919–1925, between the Federal Reserve District having the lowest average ratio—3.90, for Philadelphia—and the average ratio for the Twelfth District—5.12. Indeed, the California zone-differences for 1925–1927, combined, are not markedly less than are those for 1919–1925 between the Federal Reserve District having the lowest average ratio—3.90, for Philadelphia—and the district having the highest average ratio—Minneapolis, 5.73. Cf. Secrist, *Banking Standards under the Federal Reserve System,* p. 82.

Francisco. From this zone the ratios tend to decrease irregularly toward both the north and the south. For the state as a whole and by zones, from $70.00 to $80.00 out of each $100.00 of gross earnings are required to pay operating expenses; for banks considered individually, the amounts range from less than $65.00 to $85.00 and over for every $100 of gross receipts. Concentration in the lower expense groups occurs in Zone I, and in the higher brackets in Zone III. In the other regions, except Zone V, there do not appear to be any noticeably typical ratios. For the state as a whole the most common ratios of total expense to gross earnings fall in the group "70.00 to 75.00" per cent. That is, in general, out of each $100 of gross earnings received, expenses of operation require from $70.00 to $75.00. From the remaining $25.00 to $30.00, net losses and depreciation charged off (after recoveries have been credited) must be deducted to determine the amount of net profit available for the payment of dividends and for additions to undivided profits or surplus accounts.

For larger sections of the state, the averages are as follows, the widening of the zones having the effect of smoothing out the local differences:

Zones	Ratios: Total Expense to Gross Earnings
I and II	73.99
III and IV	77.18
V and VI	75.13

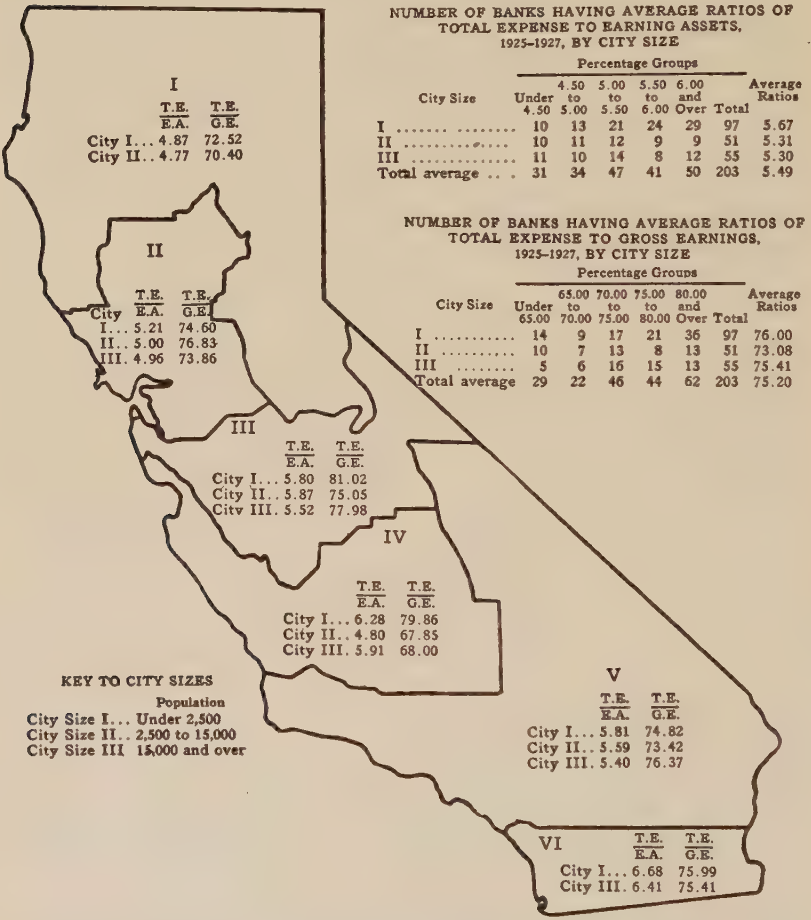
Zones	Ratios: Total Expense to Gross Earnings
I to IV	75.26
V and VI	75.13

In Chart 54, showing zone averages, no account is taken of the fact that ratios vary according to the sizes of the cities in which the banks are located. From Chart 55 (p. 244), it will be noted that generally, although not consistently, for each city size the amounts of total expense relative to earning assets increase from Zone I to Zone VI. For Zone II, as contrasted with Zone V—the areas containing San Francisco and Los Angeles, respectively—the differentials for banks by size of city are of the same order as those given in Chart 54. For cities (towns) with population under 2,500, the difference between the operating expenses, relative to the earning assets, in these two areas is 0.60 points, the amount being lower in Zone II. For banks in cities with population of 2,500 to 15,000, the disparity is 0.59 points, and for those with population of 15,000 and over, it is 0.44 points, the amount

CHART 55

Average Ratios of Total Expense to Earning Assets and to Gross Earnings for All Member Banks in California, by Zones and Sizes of Cities, 1925–1927, Combined

(Data for banks reporting all three years)



NUMBER OF BANKS HAVING AVERAGE RATIOS OF TOTAL EXPENSE TO EARNING ASSETS, 1925–1927, BY CITY SIZE

City Size	Under 4.50	4.50 to 5.00	5.00 to 5.50	5.50 to 6.00	6.00 and Over	Total	Average Ratios
	Percentage Groups						
I	10	13	21	24	29	97	5.67
II	10	11	12	9	9	51	5.31
III	11	10	14	8	12	55	5.30
Total average	31	34	47	41	50	203	5.49

NUMBER OF BANKS HAVING AVERAGE RATIOS OF TOTAL EXPENSE TO GROSS EARNINGS, 1925–1927, BY CITY SIZE

City Size	Under 65.00	65.00 to 70.00	70.00 to 75.00	75.00 to 80.00	80.00 and Over	Total	Average Ratios
	Percentage Groups						
I	14	9	17	21	36	97	76.00
II	10	7	13	8	13	51	73.08
III	5	6	16	15	13	55	75.41
Total average	29	22	46	44	62	203	75.20

KEY TO CITY SIZES

	Population
City Size I...	Under 2,500
City Size II..	2,500 to 15,000
City Size III	15,000 and over

being lower in each case in Zone II. Moreover, as is indicated in Chart 55, the ratios for banks in each zone generally although not consistently vary inversely with city size, relations found to characterize such amounts for banks when the state is considered as a unit.[1]

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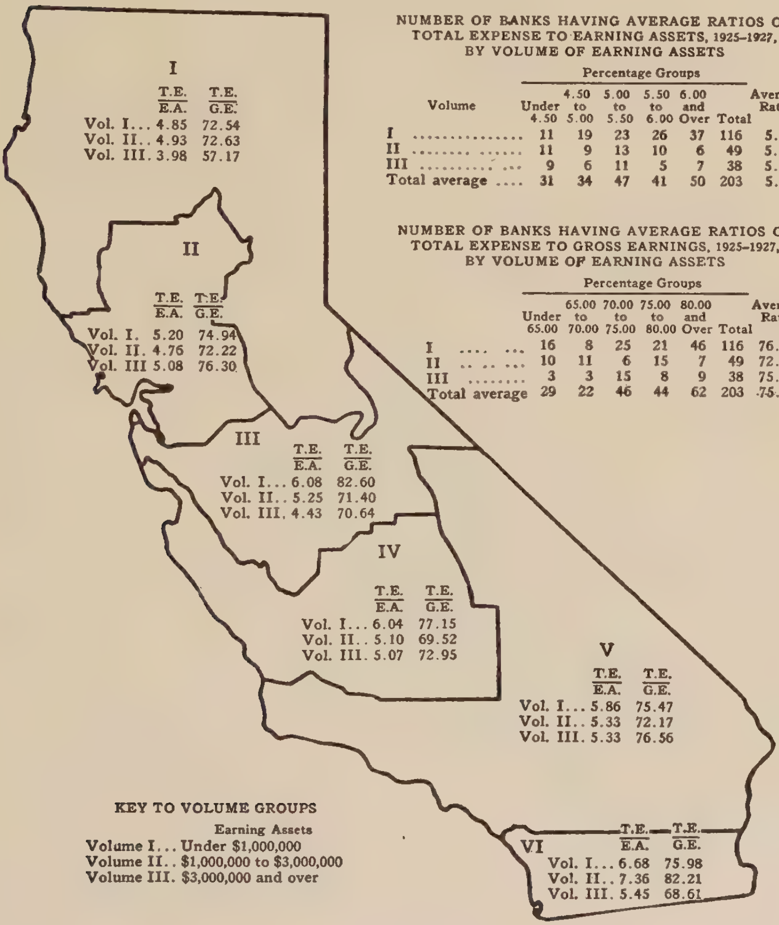
[1] See p. 240.

CHART 56

Average Ratios of Total Expense to Earning Assets and to Gross Earnings for All Member Banks in California, by Zones and Volume Groups, 1925–1927, Combined

(Data for banks reporting all three years)



NUMBER OF BANKS HAVING AVERAGE RATIOS OF TOTAL EXPENSE TO EARNING ASSETS, 1925–1927, BY VOLUME OF EARNING ASSETS

Volume	Percentage Groups						Average Ratios
	Under 4.50	4.50 to 5.00	5.00 to 5.50	5.50 to 6.00	6.00 and Over	Total	
I	11	19	23	26	37	116	5.70
II	11	9	13	10	6	49	5.17
III	9	6	11	5	7	38	5.18
Total average	31	34	47	41	50	203	5.49

NUMBER OF BANKS HAVING AVERAGE RATIOS OF TOTAL EXPENSE TO GROSS EARNINGS, 1925–1927, BY VOLUME OF EARNING ASSETS

	Percentage Groups						Average Ratios
	Under 65.00	65.00 to 70.00	70.00 to 75.00	75.00 to 80.00	80.00 and Over	Total	
I	16	8	25	21	46	116	76.29
II	10	11	6	15	7	49	72.00
III	3	3	15	8	9	38	75.50
Total average	29	22	46	44	62	203	75.10

KEY TO VOLUME GROUPS

	Earning Assets
Volume I...	Under $1,000,000
Volume II..	$1,000,000 to $3,000,000
Volume III.	$3,000,000 and over

It was observed earlier[2] that the expenses of operating banks in California relative to their earning assets vary inversely with the size of the institutions, this being the rule for all banks considered as a whole and when variously classified. Chart 56 shows that this condition also obtains for banks in separate parts of the state. Moreover, this chart indicates that, with one exception, it is cheaper, per unit of earning assets, to operate a bank in Zone I doing a given volume of business than it is in any other zone. Similarly, in terms of earning assets, banks of each size class in Zone II cost less to operate than do those in Zone V, although the difference does not to the same degree obtain when expenses are expressed in units of gross earnings.

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[2] See pp. 238–239.

In Chart 54, average ratios of total expense to earning assets and to gross earnings are secured for distinctive sections of California, notwithstanding the fact that for individual banks within these areas there are marked variations in both amounts, due, among other things, to the size of the cities in which the banks are located, bank size, the composition of their deposits, and so forth. Another method of analyzing the expense ratios is to select groups of equal width, determine the areas of the state[1] having average expense ratios which fall into these several groups, and illustrate the results geographically. This is done on Charts 57 and 58, the first relating to amounts of expense in terms of earning assets; the second, to amounts in units of gross earnings. By use of this method, variable areas are secured for given ratios of expense.

Chart 57 indicates (1) that relatively low ratios of total expense to earning assets are found along the coast and in the north generally; (2) that intermediate ratios occur in Los Angeles City, and in the counties to the east of but not contiguous to San Francisco; and (3) that the highest ratios are found in the extreme south and the middle interior. In a word, the zones, except VI, for which averages are given in Chart 54, are non-homogeneous in the matter under discussion, variation being relatively the largest in the southern portion of the state. If the areas shown on Chart 57 as having a given class ratio are broken up into smaller sections, variation is again encountered. Any grouping of ratios by territories or of territories by ratios clouds the diversity which obtains, and is of service as indicating only in a general way broad differentials. Chart 57 is supplemented by tabular details for unit banks, giving average ratios for twenty-two areas

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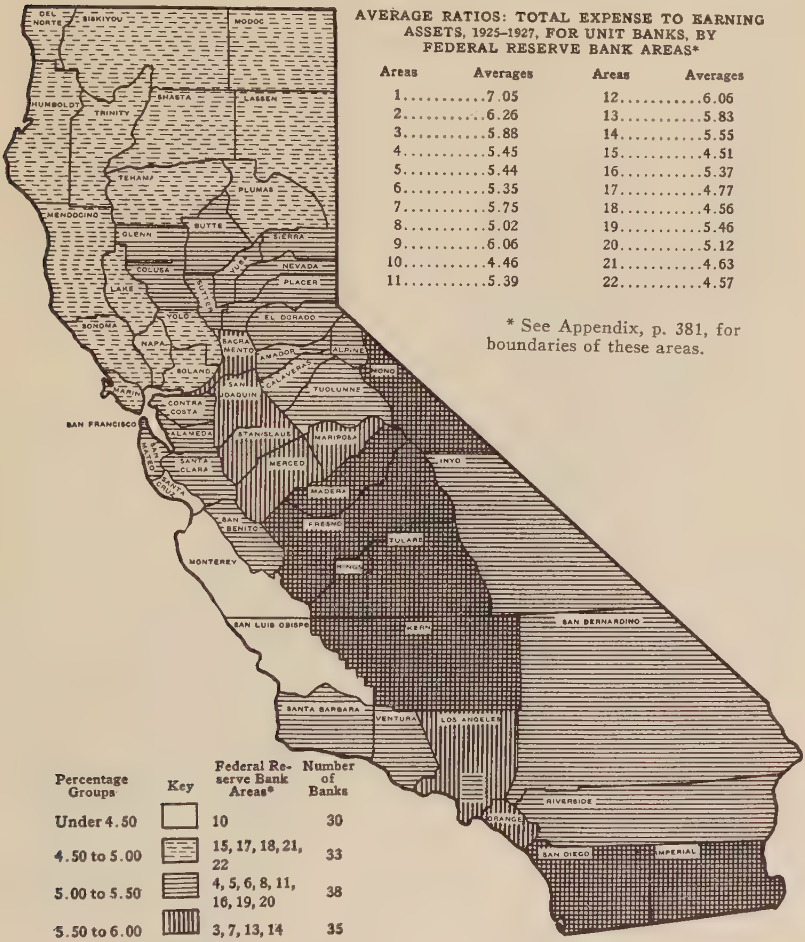
[1] The sections of the state classified in this manner are the twenty-two zones used by the Federal Reserve Bank of San Francisco.

CHART 57

Regions of California Having Unit Banks with Classified Average Ratios of Total Expense to Earning Assets, 1925 to 1927



AVERAGE RATIOS: TOTAL EXPENSE TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	7.05	12	6.06
2	6.26	13	5.83
3	5.88	14	5.55
4	5.45	15	4.51
5	5.44	16	5.37
6	5.35	17	4.77
7	5.75	18	4.56
8	5.02	19	5.46
9	6.06	20	5.12
10	4.46	21	4.63
11	5.39	22	4.57

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas*	Number of Banks
Under 4.50	□	10	30
4.50 to 5.00	▤	15, 17, 18, 21, 22	33
5.00 to 5.50	☰	4, 5, 6, 8, 11, 16, 19, 20	38
5.50 to 6.00	▥	3, 7, 13, 14	35
6.00 and over	▦	1, 2, 9, 12	45

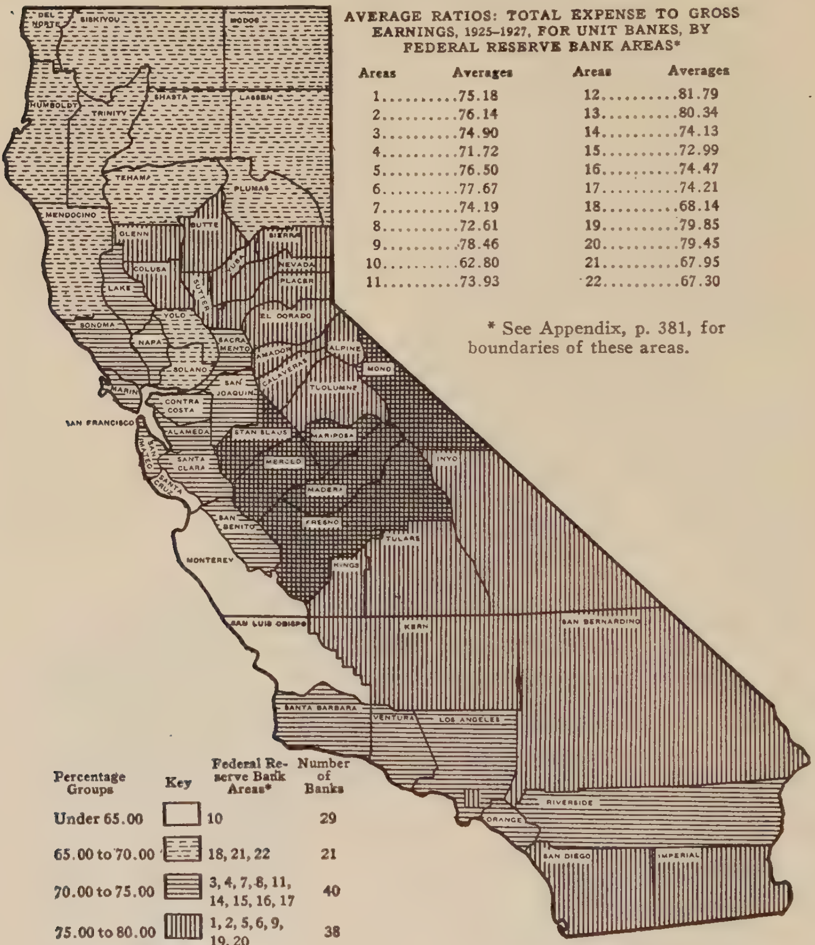
* See p. 381.

of the state and the number of banks having classified ratios. This material serves to emphasize the fact of variation.

A different picture geographically of the parts of the state according to expense ratios, from that supplied in Chart 57, is

CHART 58

Regions of California Having Unit Banks with Classified Average Ratios of Total Expense to Gross Earnings, 1925 to 1927



AVERAGE RATIOS: TOTAL EXPENSE TO GROSS EARNINGS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	75.18	12	81.79
2	76.14	13	80.34
3	74.90	14	74.13
4	71.72	15	72.99
5	76.50	16	74.47
6	77.67	17	74.21
7	74.19	18	68.14
8	72.61	19	79.85
9	78.46	20	79.45
10	62.80	21	67.95
11	73.93	22	67.30

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas*	Number of Banks
Under 65.00	☐	10	29
65.00 to 70.00	☷	18, 21, 22	21
70.00 to 75.00	▤	3, 4, 7, 8, 11, 14, 15, 16, 17	40
75.00 to 80.00	▥	1, 2, 5, 6, 9, 19, 20	38
80.00 and over	▦	12, 13	53

* See p. 381.

found in Chart 58, in which the ratios are given in terms of gross earnings. In both charts, Monterey and San Luis Obispo counties fall in the lowest group in terms of earning assets and of gross earnings. The banks in Northern California, according to both measurements, have relatively low costs of operation. Moreover, the areas of highest expense, similarly measured, except for San Diego and Imperial counties, are largely identical. Banks in Los Angeles City have lower average ratios of total expense to earning assets but higher average ratios of total expense to gross earnings than do the banks in the balance of the county. The areas to the east of San Francisco, shown on Chart 57 to have high expenses relative to earning assets, are on Chart 58, in which the measurement is in terms of gross earnings, pushed farther to the north and east and cut off to the south. The predominating ratios—5.00 to 5.50 for total expense to earning assets, and 70.00 to 75.00 for total expense to gross earnings, which, respectively, comprise eight and nine of the twenty-two regions—have four areas and eight counties in common.

In Charts 57 and 58, sections of the state of California are similarly marked accordingly as their member banks have classified amounts of total expense to earning assets and to gross earnings. In Chart 57, Los Angeles, Orange, and Riverside counties, according to the first measure, fall in the group "5.00 to 6.00" per cent. There are, of course, variations in the ratios of banks within these areas, the differentials being associated, among other things, with size of institution, size of city, composition of deposits, and so on. It is impracticable, because of the small number of institutions, to take account of all of these factors in specifying the ratios within these counties. One only—city size—is provided for in the following summary:

Ratios: Total Expense to Earning Assets	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	62	34	12*	6*	4*	6*
Under 4.75	11	4	....	....	....	....
4.75 to 5.25	13	7	....	....	....	....
5.25 to 5.75	11	7	....	....	....	....
5.75 to 6.25	11	7	....	....	....	....
6.25 and Over	16	9	....	....	....	....
Riverside County	5.45	5.82	....†	....†	....	....
Orange County	5.80	5.85	6.13	....†	....	....
Los Angeles County	5.75‡	5.77	5.74	5.51	5.49	5.33
Average	5.64	5.79	5.77	4.91	5.49	5.33

* Too few cases to distribute.

‡ Does not include Los Angeles City.

† Too few banks to report separately.

RATIOS: TOTAL EXPENSE TO GROSS EARNINGS	POPULATION OF CITIES (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	62	34	12*	6*	4*	6*
Under 65.00	10	8	.....	.....	.....	.....
65.00 to 70.00	10	5	.....	.....	.....	.....
70.00 to 75.00	18	8	.....	.....	.....	.....
75.00 to 80.00	8	3	.....	.....	.....	.....
80.00 to 85.00	8	5	.....	.....	.....	.....
85.00 and Over	8	5	.....	.....	.....	.....
Riverside County	71.72	74.24	.....†	.....†	.....	.....
Orange County	73.88	75.24	74.37	.....†	.....	.....
Los Angeles County	74.21‡	73.23	72.83	76.31	80.47	78.47
Average	74.12	73.77	73.05	69.79	80.47	78.47

* Too few cases to distribute.
† Too few banks to report separately.
‡ Does not include Los Angeles City.

Chart 58 classifies the areas of the state according to the average ratios of total expense to gross earnings. In this chart, banks in Los Angeles (except for Los Angeles City), Orange, and Riverside counties are indicated as having ratios falling in the class "70.00 to 75.00." While this is the case on the average, variations in these ratios, as in those of total expense to earning assets, occur.

The area of the three counties just named is selected for special attention. From the data presented and from certain details, the following conclusions may be drawn: First, for the three counties combined, bank ratios of total expense to earning assets tend to vary inversely with city size; for ratios expressed in terms of gross earnings, there is less evidence of a consistent relationship. The approximate ranges for the two ratios are as follows, the lowest ratios tending to characterize banks in the larger, and the highest ratios, those in the smaller cities:[1]

COUNTIES	RATIOS: TOTAL EXPENSE TO EARNING ASSETS		RATIOS: TOTAL EXPENSE TO GROSS EARNINGS	
	From	To	From	To
Riverside	4 00	7.00	58.00	88.00
Orange	4.50	8.00	64.00	88.00
Los Angeles	4.00	8.50	62.00	91.00

Second, the average ratios of banks in a given city size by counties are more alike than are the averages for the banks in different city sizes in the same county. Third, banks in small cities in rural areas tend to have higher operating expense in terms of earning assets than do those in cities of the same class-size contiguous to large centers.

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[1] These ratios are not those for particular institutions.

The foregoing pages of this chapter are concerned with an analysis of the levels of ratios of total expense to earning assets and to gross earnings for individual banks in California and for groups of banks in the United States. In their most general form the conclusions point to diversity, differentials being found (1) by major sections of the country; (2) by cities in a given area; (3) by distinctive areas; (4) by size of city of location; and (5) by bank size in the state of California. These differences in levels do not appear to be temporary, nor the diversity random. Mountain peaks, plateaus, hills, and valleys, metaphorically speaking, are present. The effect of corrosion—again speaking figuratively—arising from a better articulated money market, more diffused knowledge of standards pertaining to bank management and costs, less comparative isolation, changes in the methods of banking, and so on, is to equalize or smooth out conditions and to bring about uniformity. Such forces, however, operate slowly, leaving, within short periods, the banks over the country "terraced" in the manner described with respect to their operating expenses.

An analysis of certain features of the changes from period to period taking place in ratios of total expense to earning assets and to gross earnings will illustrate the end-results of the "corrosive" influences. A study of this type can be made of city ratios for national banks the country over, and for individual member banks in California.

The expense ratios relative to earning assets are available for sixty-four Central Reserve, Reserve, and Other Reserve cities for the years 1922 to 1927. The average ratios, the nature and amount of change, and the number of ratios increasing and decreasing from year to year are tabulated on page 252. It will be observed that the directions of change oscillate from year to year, increases being followed by decreases and decreases by increases. Not only the averages but also the prevailing tendencies, as shown by the number and nature of changes, are of this type. This behavior, moreover, is present in the ratios of

Ratios of Total Expense to Earning Assets for National Banks in Sixty-four Cities

Year	Average Ratios (1922–1927)	Direction and Amount of Change Year to Year		Number of City Ratios Year to Year	
		Increasing	Decreasing	Increasing	Decreasing
1922	5.10	.....	.....	...	...
1923	4.65	.....	—.45	10	54
1924	5.02	+.37	.....	52	12
1925	4.55	.....	—.47	15	49
1926	4.65	+.10	.....	33	31
1927	4.64	.....	—.01	33	31
Total (Average)	4.77	.....	.....	143	177

national banks, by cities, located in the Twelfth or San Francisco district. This fact is apparent from the following summary, constructed in the same manner as that just presented:

Ratios of Total Expense to Earning Assets for National Banks in Eight Cities in the Twelfth Federal Reserve District

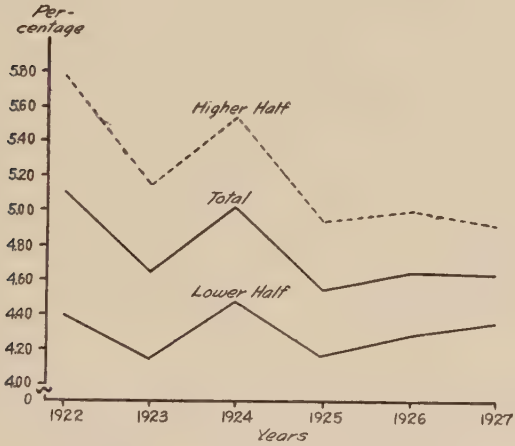
Year	Average Ratios (1922–1927)	Direction and Amount of Change Year to Year		Number of City Ratios Year to Year	
		Increasing	Decreasing	Increasing	Decreasing
1922	5.18	.....	.....	..	..
1923	4.51	.....	—.67	..	8
1924	4.83	+.32	.....	8	..
1925	4.68	.....	—.15	3	5
1926	4.84	+.16	.....	5	3
1927	4.58	.....	—.26	4	4
Total (Average)	4.77	.....	.....	20	20

The oscillatory movement from year to year and the downward trend, as shown on Chart 59 for the cities for the entire country, is accentuated for the city ratios which are relatively high, and retarded for those which are relatively low, the criteria distinguishing the classes being their amounts in 1922. This fact is indicated by the inclinations of the lines on the chart referring, respectively, to the upper and to the lower half of the ratios, the same cities being included in the two groups throughout the various years. That is, for the country as a whole, those ratios which are relatively high in 1922 fall more or rise less from year to year than do those which are relatively low in 1922. Moreover, ratios which are relatively high in 1922 tend to remain high, as do those which are relatively low tend to remain low, throughout the whole period.

CHART 59

REGRESSION OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922 TO 1927

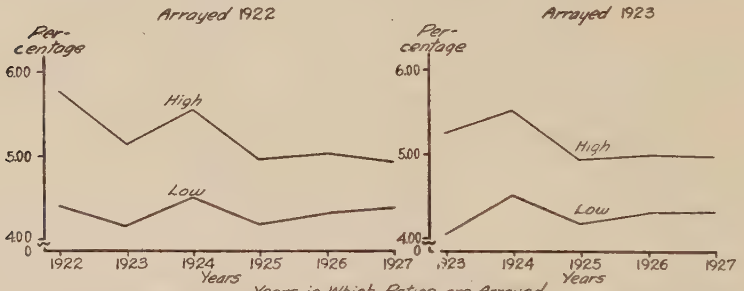
(Arrayed in 1922—same banks each year)



Amounts at the respective levels appear to be distinctive, although at these levels changes from year to year occur. In the average ratios for all cities, it is not required, in order to have a downward trend between 1922 and 1923, for instance, that (1) the prevailing movement should be downward as measured by averages and by number of changes, nor (2) that the amount of decline for ratios which are relatively high should be more than that for those which are relatively low in 1922. Indeed, the average ratios of those which are relatively high could increase, and of those which are low decrease, and the average amounts for all fall, provided the amounts of decrease of those which are low are greater than are the amounts of increase of those which are high. Moreover, the types of change are seemingly independent of the fact of the array in an initial year. Observe the patterns of change, on Chart 59, occurring between 1924 and 1925, and 1925 and 1926, in which, in the first period, the fall of those which are high exceeds that of those which are low, and, in the second period, the rise of those which are high is less than that of those which are low. Nor is it in point to maintain that the peculiar situation found for high and for low ratios, as illustrated in Chart 59, depends upon the particular year selected for classifying the ratios in this manner. This follows by virtue of the inclinations of the lines for high and for low ratios, shown in Chart 60, in which successively the several years are used in arraying the ratios. Indeed, as is indicated on the tabular part

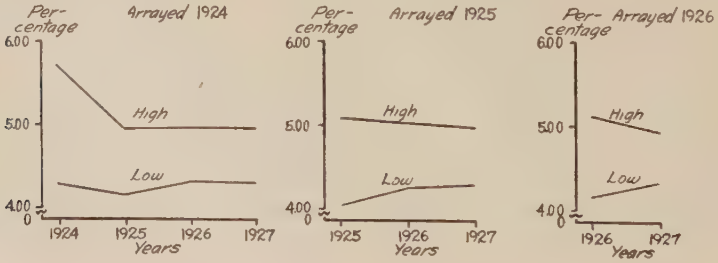
CHART 60

Average Amounts and Directions of Change of "High" and of "Low" Ratios of Total Expense to Earning Assets in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



Years in Which Ratios are Arrayed

	Years	1922		1923		1924		1925		1926		Net Average Movement
		Am't	Change	Am't	Change	Am't	Change	Am't	Change	Am't	Change	
	1922	5.79										
	1923	5.14	-0.65	5.26								-0.65
Highest	1924	5.55	+0.41	5.52	+0.26	5.72						+0.33
Thirty-two	1925	4.94	-0.61	4.93	-0.59	4.94	-0.78	5.08				-0.66
	1926	5.01	+0.07	4.99	+0.06	4.96	+0.02	5.03	-0.05	5.12		+0.03
	1927	4.92	-0.09	4.97	-0.02	4.96	±0.00	4.98	-0.05	4.94	-0.18	-0.07
Net Av. Yearly Change			-0.17		-0.07		-0.25		-0.05		-0.18	X X
	1922	4.40										
	1923	4.16	-0.24	4.04								-0.24
Lowest	1924	4.48	+0.32	4.51	+0.47	4.31						+0.40
Thirty-two	1925	4.17	-0.31	4.18	-0.33	4.16	-0.15	4.03				-0.26
	1926	4.29	+0.12	4.30	+0.12	4.33	+0.17	4.26	+0.23	4.17		+0.16
	1927	4.36	+0.07	4.31	+0.01	4.32	-0.01	4.31	+0.05	4.34	+0.17	+0.06
Net Av. Yearly Change			-0.01		+0.07		+0.003		+0.14		+0.17	X X



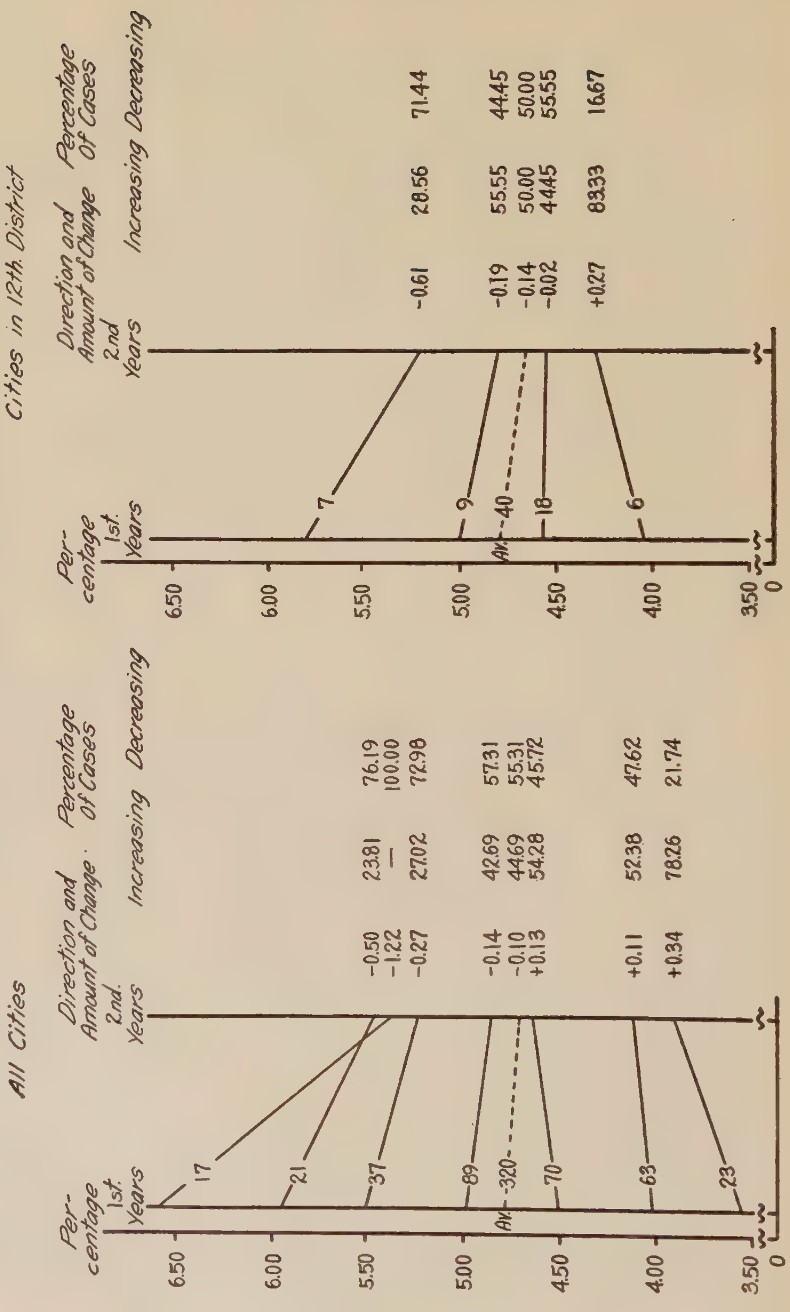
of this chart, the net average changes from year to year with a given array and for all arrays follow a distinctive pattern, its characteristics being these: ratios which are high fall more or rise less than do those which are low, and vice versa.

Another method of expressing the year-to-year changes in the ratios for national banks by cities is illustrated in Chart 61 (p. 256). In this case, the cities are divided into two classes: First, those in the country at large, and, second, those in the Twelfth Federal Reserve District, the comparisons in the respective classes relating to the average ratios in all first and in all second years, and the amounts being arrayed anew each year. Observe, first, that ratios which in the year of array are high or low, or vice versa, are in the succeeding year high or low, or vice versa. This fact is undoubtedly due to the relative stability of the ratios in the several cities. Second, the ratios which are relatively high tend to fall, and those which are relatively low tend to rise, the amounts of change, represented by the inclinations of the lines connecting the average amounts in the first and in the second years, varying directly with the relative positions of the amounts in the first years.

If at a given time from a "population" of varying ratios selections were made, as is done in the case of the method illustrated in Chart 61, and the average amounts for the groups selected were compared in the year of selection with their averages in a later year, chance alone determining the averages for the entire "population" in both years, then it would tend to be true that, despite the variation of the averages in the first year, those in the second would all be alike. But in the case under review, in neither year are the ratios determined by chance. Those ratios which are high or low, or vice versa, in a given year tend to be high or low, or vice versa, in a subsequent year. Observe that with the different arrays in Chart 60 the ratios for the high and for the low groups do not cross each other. Similarly, in Chart 61, absence of chance as the factor in the second years determining the respective group averages of variable ratios in the first years is indicated by the fact that the high and the low ratios in the first years are, respectively, high and low in the second years. Neither can the tendency for the averages to approach their means in the second years be interpreted as an indication that chance, in the probability sense, is partly operative, and this

CHART 61

REGRESSION OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1922 TO 1927, FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES



for the following, among other reasons: However imperfectly set or vaguely followed, standards relating to bank operation exist. Some of them are incorporated in laws; others are passed about from bank to bank through interchange of opinion, as the result of study; and so forth. These are followed consciously or unconsciously as the accepted criteria which indicate effective management, prudent handling of depositors' funds, sound loan and investment practices, and so on. A bank's operation is a continuous affair. Conditions of operation, affecting interest rates on deposits, and current wages, as well as the granting of loans and the establishing of lines of credit, are not determined by chance but by standards of management, which in part at least are the results of design and which, once formulated, tend to remain established.

Pure chance, difficult even to conceive, plays a relatively small part in organized business. Banking, whatever may be its limitations as actually carried on, proceeds according to design, tradition, law, and custom. These play an important part in determining, among other things, operating expenses, the chief elements of which are interest paid on deposits and wages and salaries. Banks actively compete for deposits, for loans, and for investment opportunities. Neither their earning assets nor their operating expenses are determined irrespective of market conditions—markets which in this case, while partly local, are in a very real sense both national and international. Through the market their activities become competitive, and it is evidence of competition rather than of conditioned chance which is reflected in the regression pattern.

The foregoing discussion of Charts 59 to 61 refers to ratios of total expense to earning assets. It seems unnecessary, for the body of data relating to cities, to present similar charts for ratios of total expense to gross earnings, inasmuch as the pattern of change, although unique in some particulars, is distinctive. If the explanation just given is valid, with minor modification it applies to ratios of total expense howsoever expressed.

Banks in California, as in any other section of the United States, are part and parcel of our banking system. As observed earlier, their expense ratios are peculiar to this part of the country, yet they vary according to bank location, to city size, volume of business, and so forth. If banks are connected one with another, and with those in other territories because of business conditions, trade, and market phenomena, then types of change, characterizing banks generally, will be essentially duplicated in any part of the country. Such is the case for ratios of total expense for member banks in California as a whole, for those in its distinctive zones, and for those within the state wherever located when account is taken of their city location and the amount of business transacted as shown by their average earning assets.

For California member banks reporting total expenses for the three years, their ratios to earning assets are as follows: 1925, 5.51; 1926, 5.47; and 1927, 5.48. That is, the ratios are essentially constant, notwithstanding the fact that in each year the ratios for the individual banks range from "Less than 4.25" per cent to "6.75 Per Cent and Over,"[1] and that, from year to year, banks by groups experience increases as large as 0.36 points and decreases as large as 0.78 points. Are the year-to-year changes, positive and negative—which, for all banks as a group, tend to be equalized between 1925 and 1926, and 1926 and 1927—peculiar to institutions having basically different ratios in these years? In a word, are the changes both by amount and type independent of or dependent upon the levels occupied? There is evidently no way in which these questions can be answered except that of selecting institutions with different average ratios, by calculating the ratios in the years of selection and in those subsequently, and by observing the amounts and directions of change and the number of institutions contributing to the results. For California member banks this has been done for the state as a whole, for banks by location (zones) and by volume groups irrespective of location. The methods are the same, and are justified on the same basis as those employed relating to similar inquiries for ratios of total expense of national banks by cities. The results are presented in Charts 62 to 65.

Chart 62, for member banks in the state as a whole and in certain zones, graphically represents (1) the average ratios in successive years, the averages applying to the same institutions each year, and (2) the amounts of change from year to year. For the state as a whole, the average ratio decreases 0.04 points be-

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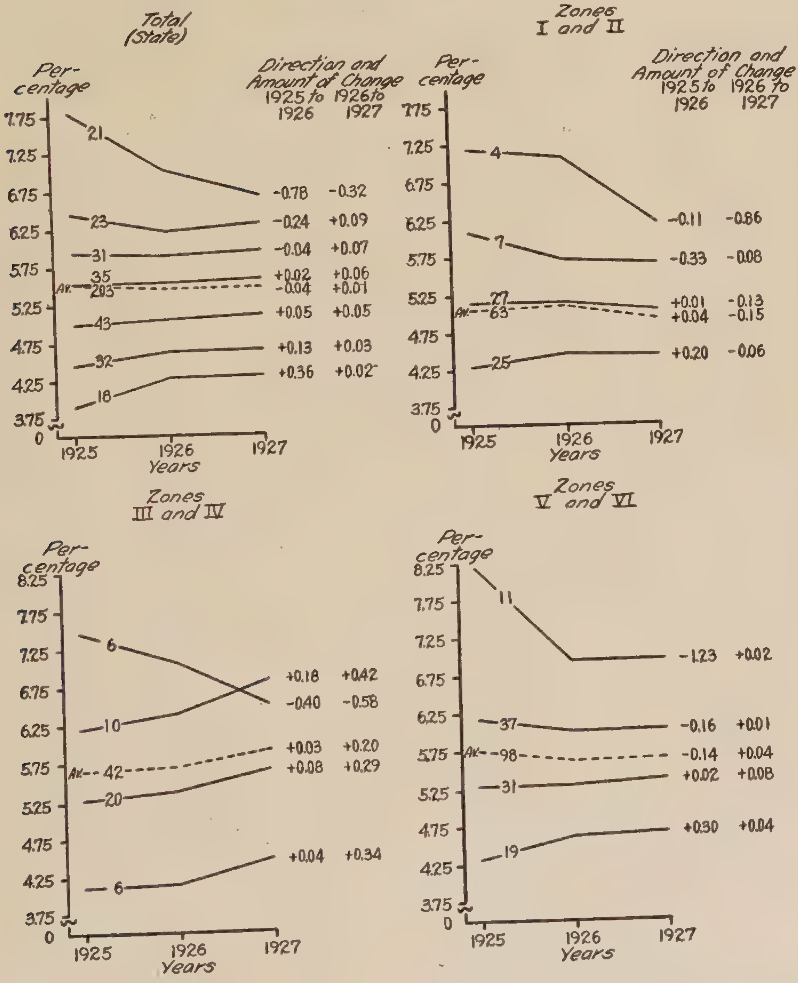
[1] See the tabular detail on Chart 54.

CHART 62

Regression of Ratios of Total Expense to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)



tween 1925 and 1926, and increases 0.01 points between 1926 and 1927. Such changes, however, can hardly be said to be typical of those which occur in the several groups of banks. Indeed, for such groups, it is characteristic of those which are low in 1925 to rise—the maximum increase being 0.36 points—and for those which in this year are high to fall—the greatest decrease being 0.78 points. Increases between 1926 and 1927 occur in every group except that in which the average ratio in 1925 is highest. In this case, the decrease is 0.32 points, a movement counter to that commonly experienced but in keeping with the regression-to-type pattern.

In the case of individual banks, variations from the type-patterns are, of course, common, and with the relatively few institutions falling in the respective groups and the short period of time available for analysis, average behavior may, and in this case does, become erratic. What is sought is evidence tending to verify or to discredit the hypothesis that regression to type, in the case of operating expenses and of other end-results of bank management, tends to obtain. In this search, too much significance should not be given to particular findings: it is the cumulative evidence arising from the use of different methods and applied to different data, pointing in one direction or the other, which is of most significance. For the state of California as a whole and for its separate zones, as shown in Chart 62, the evidence, broadly considered, is that ratios of total expense to earning assets regress to type.

The same conclusion follows from an examination of Chart 63, relating to member banks in California classified by volume groups—average amounts of earning assets. Here again the pattern is clouded at places but the outline is clear. Comparisons of average amounts in 1926 and 1927, on the basis of a selection in 1925, do not always result in increases for those which are initially low, and in decreases for those which are initially high—behavior typically found in the regressive process. Here again occasional inconsistencies need to be appraised in the light of cumulative evidence, which evidence, for the experience covered, seems adequate, all things considered, to point to a distinctive change-pattern.

Chart 64 (p. 262), for member banks in California, is the same in method of preparation as Chart 61 for national banks by cities. Both charts show comparative average ratios of total expense to earning assets for all first and for all second years when the ratios are re-arrayed each year. They also give the directions and net amounts of change from year to year. It is unnecessary in

CHART 63

Regression of Ratios of Total Expense to Earning Assets for California Member Banks, 1925 to 1927, by Volume Groups

(Arrayed in 1925—same banks each year)

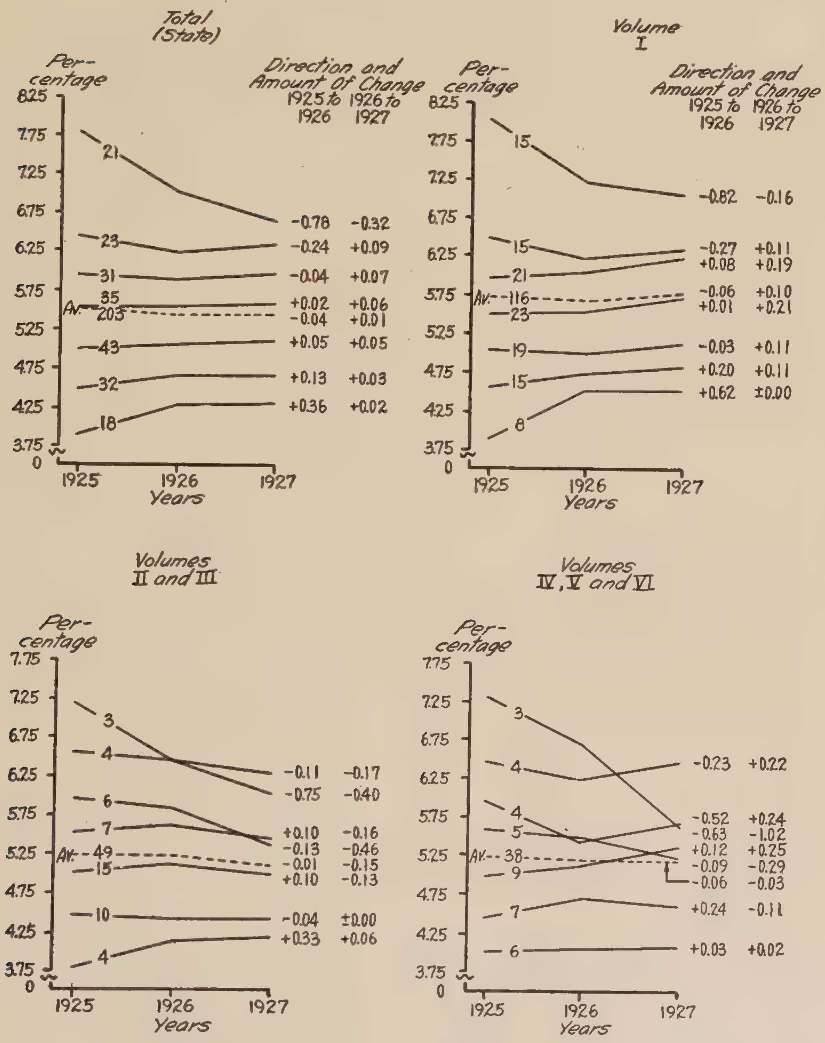
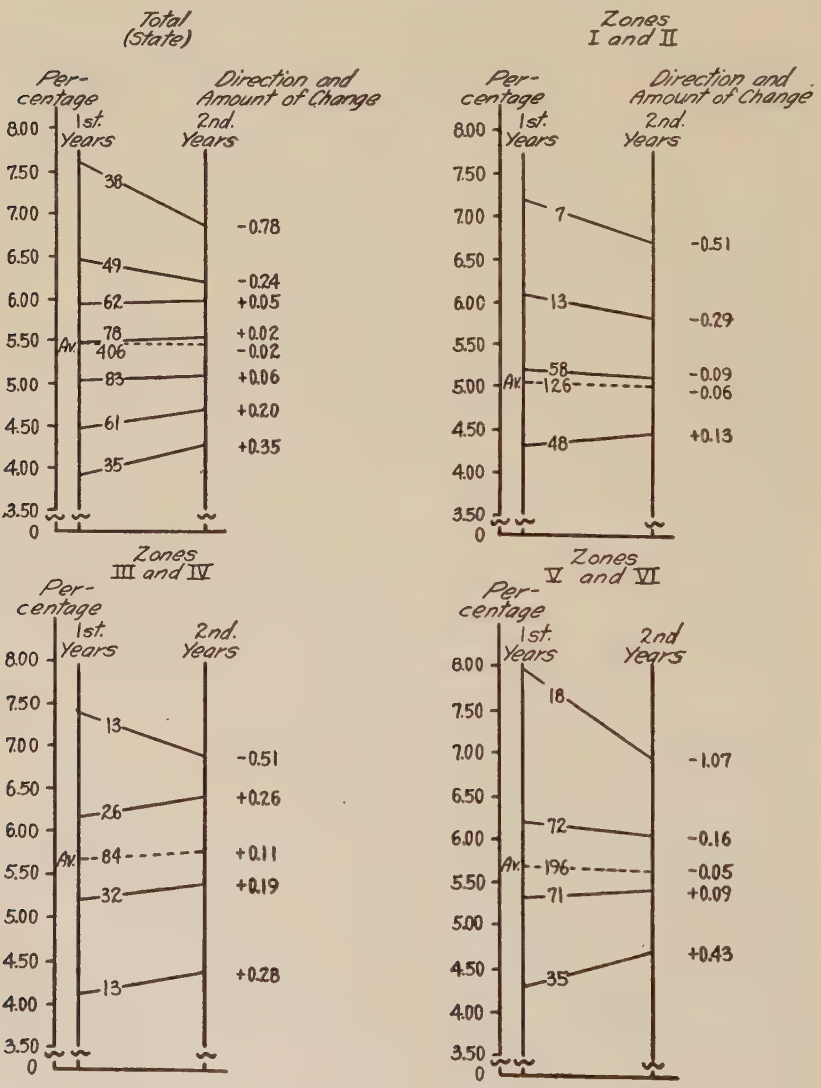


CHART 64

Regression of Ratios of Total Expense to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



connection with the use of this method to restate what has already been said. High ratios tend to fall and low ratios to rise. Moreover, the preponderance of the ratios for individual banks behave in this manner, the phenomena occurring with only an occasional exception in the state as a whole, in its different areas, and among the member banks by size. Behavior, according to the last basis of classifying the institutions, is illustrated on Chart 65 (p. 264).

Changes in bank ratios at different levels are summarized in Table 61 (p. 265), the proportion of the cases being given which, from 1925 to 1926, and from 1926 to 1927, increase or decrease compared to the levels which they held in 1925 and in 1926. It will be observed that, stated in this form, the proportions represent for past experience the relative chances of increases and of decreases. Based upon the entire experience the respective chances are essentially equal—one to one. From this condition for the group as a whole, the chances of decreases reach a maximum of 3.75 to 1.00 for those which are highest, and the chances of increases reach a maximum of 3.37 to 1.00 for those which are lowest. Somewhat similar conditions obtain for banks in the different zones.

The foregoing table and the statement of its significance is *not* a prophecy: it is a report. It shows what has happened for a given time and place. It is not a forecast of that which will occur in the same place at another time, nor is it a statement of that which may have occurred in another place at the same time.[1] Despite this interpretation, which needs to be made plain, the findings appear to have both a theoretical and a practical significance. From the standpoint of theory, they indicate that a competitive system, such as that found in banking, is not wholly planless, that "order" prevails, and that its type is not peculiar to one portion of the country, and to one group of institutions, nor

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[1] It is of interest to note, however, that similar regressive tendencies for ratios of total expense to earning assets are found to characterize, first, member banks by Federal Reserve districts; and second, individual member banks in the First (Boston) and in the Second (New York) Federal Reserve District. Cf. Secrist, *Banking Standards under the Federal Reserve System, passim.* They are also found to characterize ratios of total expense to net sales in the retail fields of clothing and hardware; cf. Secrist, *Competition in the Retail Distribution of Clothing* (Bureau of Business Research, Northwestern University, 1921), *passim,* and *Margins, Expenses, and Profits in Retail Hardware Stores* (A. W. Shaw Company, 1928), *passim.*

CHART 65

Regression of Ratios of Total Expense to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Volume Groups

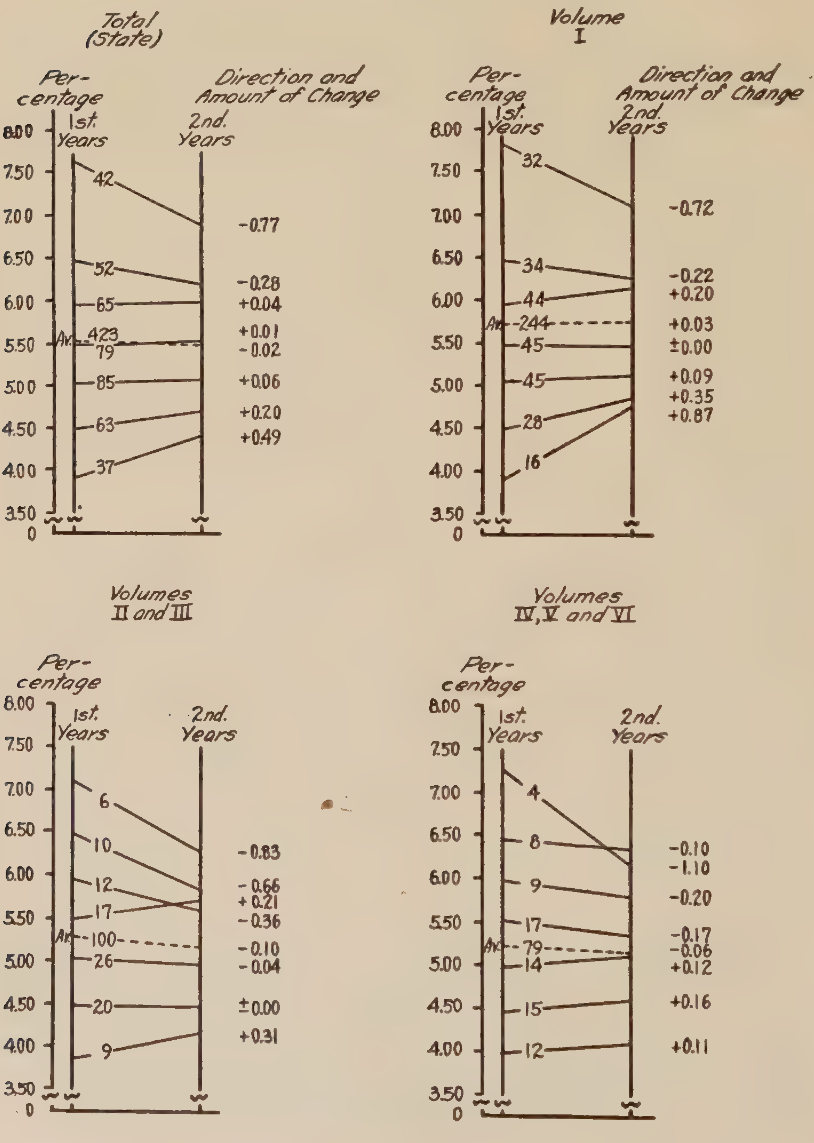

TABLE 61

Number of Bank Ratios of Total Expense to Earning Assets, and the Proportion of Such Ratios for California Member Banks, which from Year to Year, 1925–1927, Increased or Decreased, Classified by the Size of the Ratios in 1925 and in 1926

Ratios: Total Expense to Earning Assets (*Percentage Groups*)	Number of Year-to-Year Changes and Proportion of Increases and of Decreases											
	California			Zones I and II*			Zones III and IV*			Zones V and VI*		
	Number	Increases	Decreases	Number	Increases	Decreases	Number	Increases	Decreases	Number	Increases	Decreases
Total	406	49.25	50.75	126	48.41	51.59	84	59.52	40.48	196	45.41	54.59
Under 4.25	35	77.14	22.86	48	62.50	37.50	13	69.23	30.77	35	71.43	28.57
4.25 to 4.75	61	60.65	39.35									
4.75 to 5.25	83	51.80	48.20	58	41.38	58.62	32	68.75	31.25	71	49.30	50.70
5.25 to 5.75	78	48.72	51.28									
5.75 to 6.25	62	46.77	53.23	13	38.46	61.54	26	57.69	42.31	72	37.50	62.50
6.25 to 6.75	49	36.73	63.27									
6.75 and over	38	21.05	78.95	7	28.58	71.42	13	30.77	69.23	18	11.11	88.89

* For the boundaries of these zones, see Chart 96, p. 381.

dependent upon the methods which are used to trace it.[1] The practical bearings of the regressive tendencies are these: On the basis of past experience, the odds are against the expenses of banks, relative to their earning assets, being reduced when they are already low, as they are of their being increased when they are already high. Accordingly, certain conclusions seem to follow: First, a basis for intelligent operation is provided. Second, methods should be employed which will tend to retard or to expedite the leveling tendencies, as, in particular cases, they are harmful or beneficial. Both conclusions follow because regression to type is not "inherent in things as they are" but in large part is subject to conscious control.

The actual expenses which banks incur are largely an administrative matter. Rent may be comparatively low if an inferior location is selected or if business is undertaken in a small town or in a rural area. On the other hand, it most certainly will be relatively high if a choice site is used or if the place of business is in a metropolitan center. Similarly, amounts spent as wages and salaries may be comparatively low if inefficient clerical and managerial assistance is preferred. By and large, however, efficiency commands a price commensurate with the kind of service which is rendered. Like observations apply to each constituent expense item. But in the present connection it is not the absolute expense but the amount relative to the business done which is of interest. Expenses as absolute amounts may be comparatively large or small; relative to each dollar of earning assets, however, those which are large, by an absolute criterion, may be small, and those which are small, as judged in the same manner, may be large. It is the relative size of the total expense ratios of and by themselves with which the preceding pages of this chapter have been concerned. The succeeding ones, as will be seen, relate such relative amounts to others, similarly expressed, which grow out of bank operations.

In each of the preceding chapters, the nature and degree of association between ratios of total expense and other series have been fully treated, the expense ratios being primarily considered as a dependent series. It is obvious that they hold this relation to the deposit ratios, for instance, inasmuch as the larger (smaller) the proportion of demand deposits to total deposits, the larger (smaller) is the clerical cost relative to each dollar of earning assets. Similarly, the larger (smaller) the proportion of time deposits to total deposits the larger (smaller) are the ratios of interest on deposits to earning assets. As the proportions between these amounts vary, so also do the respective costs, the end-results being, so far as time deposits are concerned, that when such ratios are high (low), ratios of total expense to earning assets and of total expense to gross earnings are high (low).

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[1] It is not maintained that "order in the (business) universe" is absolute. That which is "discovered" is the result of the way in which the workings of the universe are envisaged and of the methods which are employed in generalizing about them.

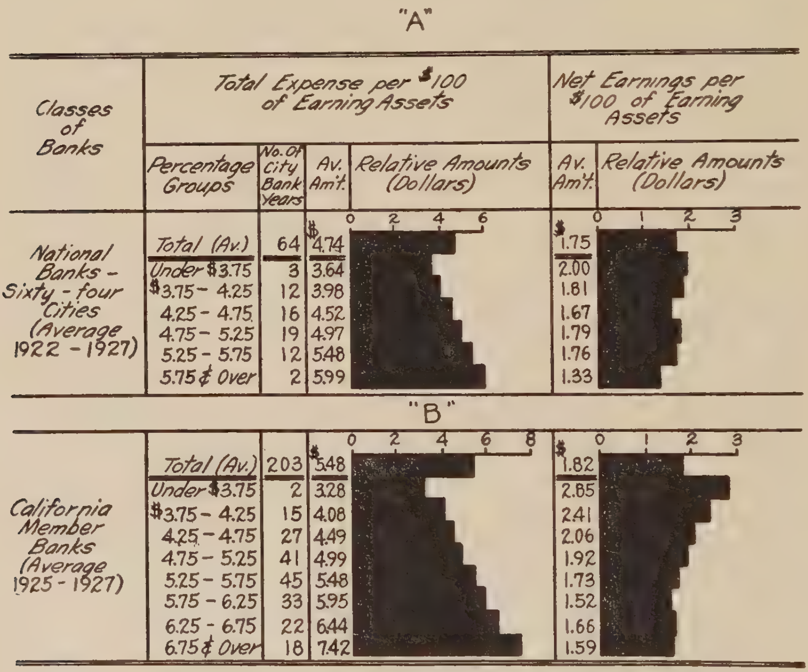
Interest is now centered in these ratios as an independent series to which ratios of net earnings are dependent. It is obvious that, other things being equal, if expenses relative to earning assets, are increased, net earnings, relative to the same base, will be decreased unless gross earnings ratios increase sufficiently to cover the amount. It has already been shown that with high (low) or increasing (decreasing) ratios of gross earnings, ratios of net earnings tend to be high (low) or to increase (decrease). On the other hand, if ratios of total expense are high (low), ratios of net earnings tend to be low (high). That is, if congruence of position and of change in the gross earnings and in the total expense ratios is ignored, and dependence of net earnings ratios upon those of total expense alone is determined, correlation tends to be inverse. This result accords with common sense. But to ignore the fact that gross earnings ratios generally more than compensate for added expense, giving in the face of high (low) or increasing (decreasing) total expense high (low) or increasing (decreasing) net earnings, is without excuse.

That ratios of net earnings to earning assets tend to be high (low) when ratios of total expense are low (high) is true only when the factor of gross earnings is left out of account. There is no justification in a final sense of doing this because expenses (1) are normally not made without a belief that they will be more than compensated for, and (2) the very occasion for paying interest on borrowed money and on deposits is to "purchase" funds which are loaned or invested, the returns from which normally more than meet the costs involved. Accordingly, ratios of net earnings will later be considered in their relation to gross earnings and to expense ratios treated simultaneously. In the meantime, however, the association between them and those of expenses alone may be briefly described.

Chart 66 shows the comparative average amounts of total expense paid and of net earnings received on each $100 of earning assets (1) for national banks by cities for the years 1922 to 1927,

CHART 66

COMPARATIVE AMOUNTS OF TOTAL EXPENSE PAID AND OF NET EARNINGS RECEIVED ON EACH $100 OF EARNING ASSETS BY TYPES OF BANKS



Classes of Banks	Total Expense per $100 of Earning Assets: Percentage Groups	No. of City Bank Years	Av. Amt.	Net Earnings per $100 of Earning Assets: Av. Amt.
National Banks – Sixty-four Cities (Average 1922 – 1927)	Total (Av.)	64	$4.74	$1.75
	Under $3.75	3	3.64	2.00
	$3.75 – 4.25	12	3.98	1.81
	4.25 – 4.75	16	4.52	1.67
	4.75 – 5.25	19	4.97	1.79
	5.25 – 5.75	12	5.48	1.76
	5.75¢ Over	2	5.99	1.33
California Member Banks (Average 1925 – 1927)	Total (Av.)	203	$5.48	$1.82
	Under $3.75	2	3.28	2.85
	$3.75 – 4.25	15	4.08	2.41
	4.25 – 4.75	27	4.49	2.06
	4.75 – 5.25	41	4.99	1.92
	5.25 – 5.75	45	5.48	1.73
	5.75 – 6.25	33	5.95	1.52
	6.25 – 6.75	22	6.44	1.66
	6.75¢ Over	18	7.42	1.59

combined, and (2) for all member banks in California for the combined years 1925 to 1927. The amounts are secured as follows: First, the average ratios of total expense to earning assets are classified into groups. Second, for each group, average amounts of total expense and of net earnings are determined, the cities, in the national bank analysis, and the individual banks in the California bank details, being the same for each group for the two types of ratios. It is apparent from the average amounts, and from the lengths of the bars, these being proportionate to the respective amounts, that

> With successively higher average ratios of total expense go successively lower average ratios of net earnings.

To this rule there is one group-exception for the national banks and one for the California members. But this form of comparative analysis has all of the limitations latent in averages as such. For instance, for the national banks, the average net earnings ratio, $1.81, corresponding to an average ratio of total expense of $3.98, may contain amounts greater or less than those included in the averages. Accordingly, in seeking for the type and the degree of association between the two series, other methods are preferable. These are the same as those formerly employed, the correlative ratios being measured in terms of percentage differences from type.

Table 62 (p. 270), for national banks by cities, shows that there is a moderate tendency for ratios of net earnings to be high (low) when ratios of total expense are high (low). That is, the two series are positively correlated. In this table, the paired ratios are measured in terms of percentage differences from type, the respective banks' six-year averages constituting the norms. If within these institutions amounts of expenditure are more than compensated for by gross earnings, or if these returns are sufficient to keep the ratios above their averages at the same time that the expenses are above their averages, then correlation will be positive. These conditions are probable within a bank or group of banks, for reasons described above, although similarity of position cannot, it is believed, be wholly explained by the cost argument.

Observe that in Table 62 positive correlation is low, the two ratios relative to the respective averages of the banks to which they apply being above their averages at the same time in 55 and below their averages at the same time in 62 per cent of the cases. The corresponding percentages for the variables, gross earnings and net earnings, are 73 and 80 per cent. In the latter case total expense and in the former gross earnings are left out of account as factors determining net earnings. In due time, both will be considered simultaneously. Observe that when they are considered separately,

TABLE 62

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets in National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Total Expense to Earning Assets (Percentage Differences)		Ratios: Net Earnings to Earning Assets (Percentage Differences) Number of City Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under – 7.50	Under – 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over	Number of City Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	25.00 and over	4	..	..	1	..	1[sf]	1	..	..	..	..	1	8	+26.71	+17.49
	20.00–25.00	2[sf]	..	..	1[sf]	1	..	1	1	1	1	..	..	8		
	15.00–20.00	..	..	..	1	..	2[sf]	2	1	..	..	..	..	6	+13.08	+ 7.20
	10.00–15.00	6	..	..	4	3	3	4	3	1	2	..	1	27		
	5.00–10.00	3	1	3	5[sf]	10	7	11	7[ola]	2	2	3	2	56	+ 4.36	+ 1.64
	Under 5.00	3	1	3	9[o]	7[la]	23[o]	13[ola]	14	7	3	1	..	84		
Below the Average	Under 5.00	1	2	1	3	11	15[o]	27	21[la]	13	3	..	1	98	— 4.00	— 1.89
	5.00–10.00	2	1	3[la]	2	6	13	13	7	5	3	..	..	55		
	10.00–15.00	1	3	..	2	2	3[la]	6	7[o]	3	3	..	1	31	—12.83	— 3.02
	15.00–20.00	..	..	..	..	1	..	..	2	1	1	..	..	5		
	20.00–25.00	1	..	..	..	..	2	1	..	..	..	..	..	4	—23.47	— 6.85
	25.00 and over	..	..	..	..	..	..	..	..	..	..	1[sf]	1	2		
Total	Number of City Bank-Years	23	8	10	28	41	69	79	63	33	13	5	7	384 384		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+47.71		+19.75		+ 6.28		— 7.12		—20.85		—44.86				
	Ratios: Total Expense to Earn-Assets (Net)	+6.47		+3.84		+0.47		—0.55		—1.35		+0.33				

[sf] San Francisco
[o] Oakland
[la] Los Angeles

Net earnings ratios are relatively more frequently low when expense ratios are high than they are high when expense ratios are low, and that

Net earnings ratios are relatively more frequently low when gross earnings ratios are high than they are high when gross earnings ratios are low.

Moreover,

Net earnings ratios are relatively more frequently high when gross earnings ratios are high than when ratios of total expense are low, and

Net earnings ratios are relatively more frequently low when gross earnings ratios are low than when total expense ratios are high,

which facts, in terms of a single variable, seem to indicate that net earnings depend less upon amounts of total expense than upon those of gross earnings. But such a judgment is premature, because net earnings ratios depend not only on these factors separately but also upon them in combination, and these in turn are functions of all antecedent circumstances.

Moderate positive correlation of ratios of net earnings with total expense ratios is the rule for national banks by cities when, as in Table 62, measurements are made in terms of percentage differences from type. On the other hand, as shown in part "A" of Chart 66, in which comparative measurements in the two series are made relative to the amounts for the entire number of institutions, an inverse relation holds. Relations of the latter type obtain for California member banks, as is indicated in part "B" of the same chart. That is, for the two groups of institutions there is substantial agreement, notwithstanding the fact that according to Tables 62 and 63, referring, respectively, to the two bodies of data, there is disagreement. This contradictory showing may be accounted for as follows: These ratios, as differences from individual bank types, are correlated positively because, among other things, of the interplay of internal management; when taken as differences from bank classes, as in Table 63 (p. 272), or from the averages for all banks, as is implicit in the comparative arrays in Chart 66, they are correlated negatively because, among other things, of (1) the normal tendency for relatively high expense, other things being equal, to occasion low net earnings, and because of (2) the fact that the tendency for gross returns to exceed the costs involved in securing them does not

TABLE 63

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Averages)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	Number of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	1	..	1	..	..	..	3	2	5	14	+55.00	—25.00
	40.00–50.00	1	..	..	..	..	..	1	1	2	2	2	1	10	+45.00	—23.00
	30.00–40.00	1	1	..	1	1	..	1	2	2	3	3	6	21	+35.00	—24.52
	20.00–30.00	4	..	1	3	1	2	3	5	5	3	6	20	53	+25.00	—25.19
	10.00–20.00	4	4	2	5	13	6	5	13	7	11	8	24	102	+15.00	—16.08
	Under 10.00	15	3	7	12	11	18	19	13	16	11	14	25	164	+ 5.00	— 8.05
Below the Average	Under 10.00	29	5	6	18	17	34	15	16	17	12	7	15	191	— 5.00	+ 3.17
	10.00–20.00	14	8	13	13	11	17	13	12	7	6	6	8	128	—15.00	+ 6.41
	20.00–30.00	16	8	5	9	7	5	7	10	3	..	1	1	72	—25.00	+19.58
	30.00–40.00	13	..	2	2	1	..	1	1	..	..	..	1	21	—35.00	+36.90
	40.00–50.00	4	..	..	..	1	..	..	1	..	..	..	..	6	—45.00	+36.67
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1	—55.00	+55.00
Total	Number of Bank-Years	103	29	37	64	69	88	65	74	59	51	49	106	783 783		
Total — Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	—10.44	— 8.10	— 7.43	— 4.37	— 3.10	— 3.19	— 2.38	— 1.22	+ 3.47	+ 9.90	+10.10	+11.89			

evidence itself when the correlated ratios are measured against the averages of different banks. In a word, ratios for given banks are more like themselves and are more intimately related than are the ratios of different banks. In Table 62 it is the former which are correlated; in Table 63 and in Chart 66 it is the latter which are compared.

Table 63 shows inverse correlation between net earnings and total expense ratios for California member banks when differences from type apply to the yearly averages of bank classes. Similar relations obtain for the banks howsoever classified, there being no exceptions according to positions and relatively few according to dispersion classes. Because of the fact that this type of association is so persistent, it is thought of interest to present frequency surfaces for California member banks variously classified. This is done in the Appendix, pages 480 to 497.

Moreover, if ratios of net earnings tend to be high (low) when ratios of total expense are low (high), so also do ratios of total expense tend to be high (low) when ratios of net earnings are low (high). Indeed, these conditions obtain not only for California members but also for member banks in the Boston district. Table 64, for the different bodies of data, distributes the net earnings ratios as follows, relative to the positions of the ratios of total expense:

The proportions which are above the average when total expense ratios are below the average.

The proportions which are below the average when total expense ratios are above the average.

It will be seen (1) that, for all data, except those for national banks by cities, the "high-low," and the "low-high" quadrants of the frequency surfaces, of one of which Table 64 (p. 274) is a summary, contain from 60 to 72 per cent of the cases; (2) that net earnings ratios are relatively more frequently low when total expense ratios are high than they are high when total expense ratios are low; (3) that the differences noted in (2) are substantially the same despite the several methods which are used in measuring the differences from type; and (4) that for a given method the results for the California members are not markedly different from those for the member banks in District 1.

The results from studying the paired year-to-year changes in

TABLE 64

RELATIVE NUMBER OF RATIOS OF NET EARNINGS TO EARNING ASSETS ABOVE OR BELOW THEIR AVERAGES FOR CLASSIFIED POSITIONS OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS BY CLASSES OF BANKS

Classes of Banks	Nature of Percentage Differences	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets—Percentage of Cases	
			Above the Average	Below the Average
California Member Banks, 1925–1927	From All Bank Yearly Averages	Above the average..........	.....	66.57
		Below the average..........	59.51	.....
	From Yearly City-Group Averages	Above the average..........	.....	68.45
		Below the average..........	61.15	.....
	From Yearly Averages of Bank Classes	Above the average..........	.....	67.03
		Below the average..........	61.81	.....
	From Yearly Averages of Bank Sizes	Above the average..........	.....	68.25
		Below the average..........	60.77	.....
Boston—District 1—Members, 1924–1925*	From Yearly Averages of Bank Sizes	Above the average..........	.....	72.25
		Below the average..........	64.23	.....
National Banks by Cities, 1922–1927	From the Respective City Averages, 1922–1927	Above the average..........	.....	44.97
		Below the average..........	38.46	.....

* H. Secrist, *Banking Standards under the Federal Reserve System* (Chicago, 1928), from data in Table 183, p. 310.

ratios of net earnings and of total expense for the two bodies of data are inconclusive. This phase of the subject is discussed later, account being taken simultaneously of the changes in both gross earnings and total expense ratios, the differences between which define the actual amounts of net earnings, and the regressions of which serve largely to determine their characteristic year-to-year changes. It is obvious that ratios of both gross earnings and of total expense are functionally related to all phases of bank activity and that these, as revealed in percentage differences from type and as changes from year to year, must be taken account of if the behavior of net earnings is to be fully understood.

Data in this chapter are used (1) to note the levels of the expense ratios for banks of different types, classes, and sizes in the country generally and in California, (2) to measure the regressive tendencies of such ratios, and (3) to determine the degree and the nature of association which obtains between them as independent and net earnings as dependent variables.[1] The analysis has led to certain conclusions, which are summarized at appropriate places and need not be repeated.

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[1] The nature and degree of association between various series of bank data and ratios of total expense to earning assets, the latter being treated as the independent variable, are summarized for national banks, by cities, and for California member banks, in the Appendix, pp. 498–512.

CHAPTER IX

RATIOS OF NET EARNINGS TO EARNING ASSETS AND TO GROSS EARNINGS

The two immediately foregoing chapters relate to ratios of gross earnings and to total expenses of banks and of groups of banks in the country at large and in California. The differences between the gross returns and the total expenses of operation, before allowances are made for losses and recoveries, constitute the net earnings. It is these differences, when expressed in terms of earning assets and of gross earnings, with which this chapter has to do.

It is at once obvious that amounts of net earnings are functions of, that is, depend upon, the gross earnings and total expenses. They are residual, that is, "left overs" to be used in paying dividends; are permitted to accrue in the form of undivided profits; are set aside as a part of surplus funds; or are used to cover losses. Whatever conditions affect gross earnings or operating expenses affect them. While this is patent in the case of an individual bank, it is not quite so evident when groups of banks are considered, because, among other things, both the gross earnings and the expenses, as well as the relations between them, vary. When net earnings themselves are expressed as ratios to earning assets or to gross earnings, other variables affecting the ratios are introduced, and these must be taken into account.

This chapter, like those which precede it, deals with ratios, not for single banking institutions as such but for them in groups, it being one of its aims to establish average and characteristic levels and types of change for such groups for the years, areas, kinds of banks, and so on, for which data are available. But, as noted above, such ratios are functions of operating conditions—variables for the same institution from time to time and from place to place, and for different institutions at the same time and place. Accordingly, this chapter aims to determine and to state quantitatively the nature of these interrelations, and to appraise their stability. The average and prevailing ratios of net earnings to earning assets and to gross earnings, for national banks by cities, and for individual member banks in California, first receive attention.

For the years 1922 to 1927 combined, national banks in the sixty-four Central Reserve, Reserve, and Other Reserve cities earn \$1.76, net, on each \$100 of earning assets. This amount—a difference—is left over out of \$6.53 of gross earnings received and after \$4.77 of total operating expenses are paid. Relative to the gross receipts, this average net amount is 27 per cent; relative to the expenses, 37 per cent. But while this is true on the average, it is not true for any one year for the period covered. In 1927, the average amount is lowest, \$1.63; in 1922, it is highest, \$2.09. Over the whole period, the amounts tend to decrease. Concerning this tendency, considerable is said later.

While the averages for all banks for the several years vary, so each year do those for the respective cities (national banks in each of these cities being treated as a group). For the six years combined, the amounts, by groups, range from less than \$1.00 to \$2.75 and over. The typical amount-group is from \$1.50 to \$1.75, 24 per cent of all of the cities at one time or another falling within these limits. Other groups are well represented, however, as is shown later.[1]

Of the sixty-four cities, there are eight located in the Twelfth Federal Reserve District which it is of interest to treat separately because (1) some of them are in California, the banks of which are later discussed in detail; and (2) as a group they are located in a distinctive part of the country. National banks in these cities earn less each year and for the entire period than do those for the cities in the country generally, net earnings being measured relative to each \$100 of earning assets. Moreover, for the whole period and for each year, except 1923, their net earnings are less on each \$100 of gross receipts. From year to year, the net earnings of both groups of cities vary in the same manner, the lowest year, \$1.50 in terms of earning assets, being 1927; and the highest year, \$2.08, being 1922 for the cities in the Twelfth District. In terms of gross earnings, net earnings are highest in 1922 and lowest in 1925.

Variation characterizes the net earnings ratios of national banks in the cities in the Twelfth District as well as of those in the country generally. This is apparent from the details which are later presented in support of the average amounts, and follows logically from matter already given, showing the diversity of the ratios of gross earnings and of total expense upon which, among other things, ratios of net earnings depend.

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[1] See p. 278.

It will help in visualizing these amounts for national banks in different parts of the country, and the manner in which they deviate from similar ratios for member banks in California, if a tabular summary is used. The following one, relating to the years combined, will serve this purpose.

Classes of Banks	Ratios: Net Earnings to Earning Assets	
	1922–1927	1925–1927
National Banks: 64 Cities	1.76	1.66
National Banks: 8 Cities, Twelfth District	1.69	1.54
National Banks: San Francisco, Los Angeles, and Oakland	1.72	1.49
All Member Banks: California	....	1.76

For the sixty-four cities and for eight of them in the Twelfth District, the ratios for the years 1922–1927 combined are distributed as follows:[1]

Ratios: Net Earnings to Earning Assets	Percentage of Cases	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 1.00	4.17	20.83
1.00 to 1.25	8.33	
1.25 to 1.50	14.84	
1.50 to 1.75	24.48	43.75
1.75 to 2.00	21.35	27.09
2.00 to 2.25	13.80	8.33
2.25 to 2.50	5.21	
2.50 to 2.75	4.43	
2.75 and Over	3.39	

Similar summaries of ratios of net earnings to gross earnings are given on page 279.

It will be observed that the nature of the distributions supports the conclusions derived from the average amounts. That is, for national banks, ratios of net earnings to earning assets and to gross earnings are lower in the cities in the Twelfth District than are those in cities the country over. On the other hand, all member banks in California have higher ratios of net earnings to earning assets but lower ratios of net earnings to gross earnings than do the national banks in the three largest cities in the state. Moreover, these three cities have smaller ratios of net earnings to earning assets but larger ratios of net earnings to gross earnings than do the eight cities in the Twelfth District. There is evidently some relation, not disclosed in these averages, between the sizes of such ratios and the types of banks, the size of the cities in which they are located, and the parts of the country to which the data pertain. It is the purpose of the material immediately following to discover what these relations are for member banks in California.

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[1] Details for member banks in California are supplied later.

Classes of Banks	Ratios: Net Earnings to Gross Earnings	
	1922–1927	1925–1927
National Banks: 64 Cities	27.08	26.36
National Banks: 8 Cities, Twelfth District	26.22	24.91
National Banks: San Francisco, Los Angeles, and Oakland	28.52	26.02
All Member Banks: California	.....	24.10

Ratios: Net Earnings to Gross Earnings	Percentage of Cases	
Percentage Groups	United States (64 cities)	Twelfth District (8 cities)
Under 15.00	3.12	8.33
15.00 to 20.00	11.20	
20.00 to 25.00	20.31	25.00
25.00 to 30.00	35.16	54.17
30.00 to 35.00	20.05	10.42
35.00 and Over	10.16	2.08

By utilizing all of the data available for California member banks for the three years 1925 to 1927 combined, it is found that the average ratio of net earnings to earning assets is 1.76, and that of net earnings to gross earnings, 24.10. For the separate years these ratios are as follows:

Years	Number of Banks	Ratios for California Member Banks	
		Net Earnings to Earning Assets	Net Earnings to Gross Earnings
Average (total)	783	1.76	24.10
1925	274	1.75	23.95
1926	280	1.76	23.93
1927	229	1.79	24.48

For banks reporting for three years, the ratios, as is shown below, are much the same.

Years	Number of Banks	Ratios for California Member Banks	
		Net Earnings to Earning Assets	Net Earnings to Gross Earnings
Average (total)	609	1.80	24.80
1925	203	1.77	24.31
1926	203	1.81	24.81
1927	203	1.85	25.30

But for each of the years, the variation from the average amount is considerable, ratios "Less than 0.75" and "2.75 and Over," in terms of earning assets, and "Less than 15.00" and "35.00 and Over," in units of gross earnings being relatively common. The distributions of the two measures of net earnings for the combined years are as follows:

Ratios: Net Earnings to Earning Assets (1925–1927)	
Percentage Groups	Number of Ratios
Total	609
Under .75	36
.75 to 1.25	105
1.25 to 1.75	161
1.75 to 2.25	153
2.25 to 2.75	88
2.75 and Over	66

Ratios: Net Earnings to Gross Earnings (1925–1927)	
Percentage Groups	Number of Ratios
Total	609
Under 15.00	94
15.00 to 20.00	109
20.00 to 25.00	108
25.00 to 30.00	130
30.00 to 35.00	85
35.00 and Over	83

The differences in the ratios, as indicated immediately above, may be clarified by classifying the member banks according to type, size, size of city in which located, and the portion of the state in which they are found. This is done in what follows, average amounts only, because of lack of space, being presented.

By bank type, based upon the three-year experience, 1925 to 1927, the averages are those given below:

Types of Banks	Number of Bank-Years	Ratios: Net Earnings to Earning Assets	Ratios: Net Earnings to Gross Earnings
Average (total)	783	1.76	24.10
National Unit	657	1.79	24.46
State Unit	38	1.83	24.02
National Banks with Branches...	45	1.52	21.21
State Banks with Branches......	43	1.59	21.61

It will be observed that net earnings to earning assets are highest for state unit banks; that net earnings to gross earnings are highest for national unit banks; that according to both measures, national banks with branches have the lowest ratios; and that banks with branches have lower ratios than do those without branches. The maximum difference between the ratios in the two last-named classes, for net earnings to earning assets, is 20 per cent; and for net earnings to gross earnings, 15 per cent—the percentage amounts being related to the lower ratios. Moreover, the differences for the combined years obtain for each of the years.

But for each class and for all classes of banks, ratios of net earnings to earning assets vary according to bank size. It tends to be true that (1) the larger the earning assets (average), the smaller the net earnings; and (2) the banks with largest ratios are those with average earning assets of "$1,000,000 to $3,000,000." These generalizations follow from the details below:

AMOUNT OF EARNING ASSETS (AVERAGE 1925–1927)	RATIOS: NET EARNINGS TO EARNING ASSETS			
	All Years	1925	1926	1927
Average	1.76	1.75	1.76	1.79
Under $1,000,000	1.72	1.70	1.72	1.75
$1,000,000 to $3,000,000...	1.99	1.89	2.02	2.07
$3,000,000 and Over	1.63	1.72	1.58	1.58

AMOUNT OF EARNING ASSETS (AVERAGE 1925–1927)	RATIOS: NET EARNINGS TO EARNING ASSETS				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	1.76	1.79	1.83	1.52	1.59
Under $1,000,000	1.72	1.74	1.85	1.16	0.67
$1,000,000 to $3,000,000....	1.99	1.93	1.87	1.93	1.91
$3,000,000 and Over	1.63	1.67	1.78	1.41	1.64

Relations similar to those just presented for ratios of net earnings in terms of earning assets also obtain when measurements are made in terms of gross earnings. This will be seen to be the case from observing the amounts on page 282.

Variation in the ratios according to the size of the cities (1920) in which the banks are located is also characteristic.

This fact, while in part due to geographical peculiarities, a matter discussed presently, and to the size of the institutions—the larger banks will generally be found in the larger, and the smaller banks in the smaller cities—is patent from the following summary:

Amount of Earning Assets (Average 1925–1927)	Ratios: Net Earnings to Gross Earnings			
	All Years	1925	1926	1927
Average	24.10	23.95	23.93	24.48
Under $1,000,000	23.00	22.93	23.01	23.10
$1,000,000 to $3,000,000	27.33	26.21	27.32	28.83
$3,000,000 and Over	23.45	24.12	22.72	23.56

Amount of Earning Assets (Average 1925–1927)	Ratios: Net Earnings to Gross Earnings				
	All Banks	National Units	State Units	National Banks with Branches	State Banks with Branches
Average	24.10	24.46	24.02	21.21	21.61
Under $1,000,000	23.00	23.25	22.98	15.91	7.09
$1,000,000 to $3,000,000	27.33	27.74	24.18	25.62	25.61
$3,000,000 and Over	23.45	24.81	24.96	20.23	22.65

Size of City (1920) in Which Located	Ratios: Net Earnings to Earning Assets			
	All Years	1925	1926	1927
Average	1.76	1.75	1.76	1.79
Under 2,500	1.79	1.77	1.81	1.79
2,500 to 15,000	1.83	1.80	1.80	1.93
15,000 and Over	1.66	1.67	1.64	1.66

According to this showing, banks in cities with population of 2,500 to 15,000 are the most profitable. Such a generalization, which is supported by the fact that the ratios of net earnings to gross earnings are also highest in these cities,[1] should not be interpreted to mean that this is true in all locations, and for all bank types and sizes. To so conclude would be to ignore differentials already presented and others now to be specified.

In earlier sections of this discussion, geographical factors are found to be associated with, if not causally related to, the results of bank operation. This, while noticeably true of ratios of gross earnings and of total expense to earning assets, tends also to characterize ratios of loans and discounts and of deposits. It is apparent that the results of bank management, as reflected in these ratios, help to determine net earnings. Without anticipating even in summary form the relations subsequently presented in detail, it is sufficient for present purposes to recall (1) that ratios of gross earnings and of total expense to earning assets—the immediate antecedents of ratios of net earnings to earning assets—are relatively high in the south and low in the north of California; and (2) that geographically these ratios vary together. Accordingly, the way in which ratios of net earnings to earning assets are connected with location is a function of—that is to say, depends upon—the relative variation of these amounts.

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[1] The amounts can be read directly by subtracting from 100 the ratios as given in the summary on page 240. That is, ratios of net earnings to gross earnings are the complements of those of total expense to gross earnings.

In studying the geographical variation of ratios of net earnings of member banks in California, a number of different approaches are available. Account can be taken of this factor alone, or of it combined with other variables, such as size of city and bank size, on both of which net earnings ratios depend. Moreover, if averages are used—and this of necessity must be the case—they may be secured for areas which as a result of study are found to be distinctive or, as an alternative, areas having common (group) ratios may be selected and their boundaries indicated in a distinctive manner. The latter process is equivalent to selecting areas according to given group ratios; the former, to determining average ratios for given areas. Both methods are used in the present discussion.

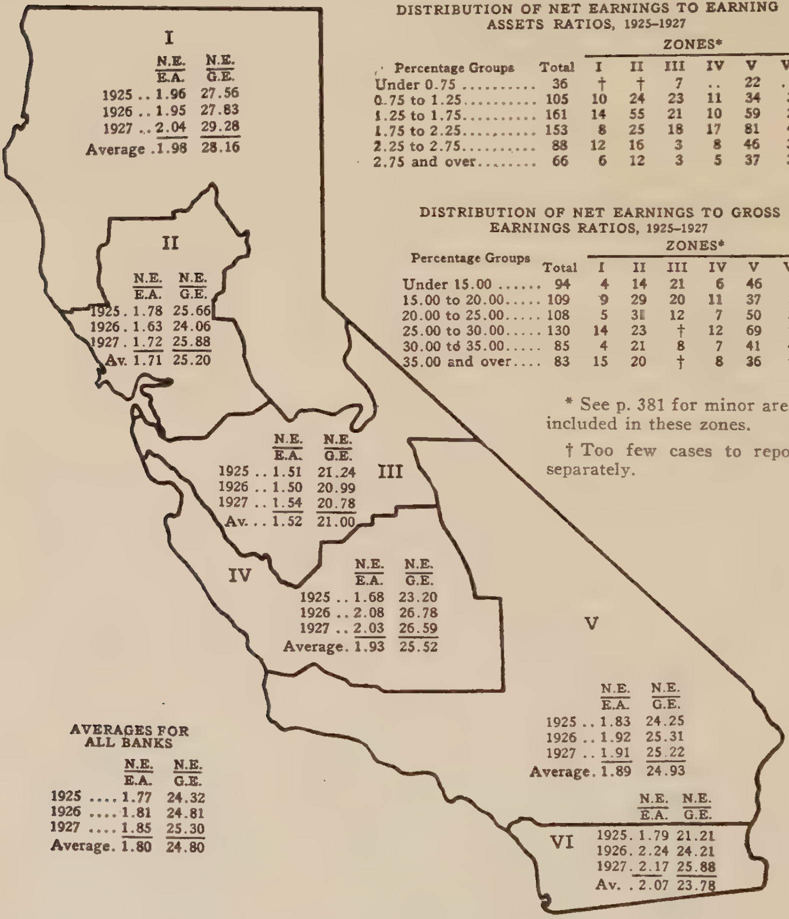
Chart 67 (p. 284) gives the average ratios of net earnings to earning assets and to gross earnings of member banks in California located in six zones—the respective ratios referring to the years 1925 to 1927, individually and combined. It also gives in tabular form the variation in these ratios, the three years being used for this purpose and the amounts referring to the separate zones. These details supplement the averages, inasmuch as they indicate, what is actually the fact, that variation bank by bank occurs in each zone, a conclusion not apparent from the averages as such.

How do the net earnings ratios differ geographically? Based upon the averages for the three years, they are lowest in Zone III—both measures showing this to be the case. In this zone, moreover, 68 per cent of the ratios, in terms of earning assets, and 71

CHART 67

Average Ratios of Net Earnings to Earning Assets and to Gross Earnings, 1925–1927, for All Member Banks in California, by Zones

(Based on data for banks reporting all three years)



DISTRIBUTION OF NET EARNINGS TO EARNING ASSETS RATIOS, 1925–1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 0.75	36	†	†	7	..	22	..
0.75 to 1.25..........	105	10	24	23	11	34	3
1.25 to 1.75..........	161	14	55	21	10	59	2
1.75 to 2.25..........	153	8	25	18	17	81	4
2.25 to 2.75..........	88	12	16	3	8	46	3
2.75 and over........	66	6	12	3	5	37	3

DISTRIBUTION OF NET EARNINGS TO GROSS EARNINGS RATIOS, 1925–1927

Percentage Groups	Total	ZONES* I	II	III	IV	V	VI
Under 15.00	94	4	14	21	6	46	3
15.00 to 20.00.....	109	9	29	20	11	37	3
20.00 to 25.00.....	108	5	31	12	7	50	3
25.00 to 30.00.....	130	14	23	†	12	69	†
30.00 to 35.00.....	85	4	21	8	7	41	4
35.00 and over....	83	15	20	†	8	36	†

* See p. 381 for minor areas included in these zones.

† Too few cases to report separately.

AVERAGES FOR ALL BANKS

	N.E./E.A.	N.E./G.E.
1925	1.77	24.32
1926	1.81	24.81
1927	1.85	25.30
Average.	1.80	24.80

per cent, in terms of gross earnings, fall below the average for the state as a whole. The zones of high ratios are in the extreme north and the far south, it being generally true, in the case of net earnings in relation to earning assets, that from the low levels in Zone III the ratios become successively higher for the zones to the north and to the south. This tendency also holds for zones to the north for ratios in terms of gross earnings; it is less true for those toward the south, the highest ratios, south of Zone III, occurring in Zone IV.

It will be observed that zones having relatively high or low ratios of net earnings to earning assets do not always have relatively high or low ratios of net earnings to gross earnings. The converse of this is also true. According to both measures, Zone I is high. On the other hand, Zone VI has the highest net earnings in terms of earning assets but has relatively low net earnings in relation to gross earnings. The above comments will suffice to call attention to the outstanding geographical variations. By consulting the chart, the reader may observe other variations and may verify for himself those just specified.

If the areas in Chart 67 are combined in the manner shown below, geographical differences for the years 1925, 1926, and 1927, combined, still obtain.

Zones	Ratios: Net Earnings to Earning Assets	Ratios: Net Earnings to Gross Earnings
I and II	1.79	26.01
III and IV	1.68	23.82
V and VI	1.87	24.87

For Northern and for Southern California, there are also differences in the ratios of net earnings.

Zones	Ratios: Net Earnings to Earning Assets	Ratios: Net Earnings to Gross Earnings
I to IV	1.75	24.74
V and VI	1.87	24.87

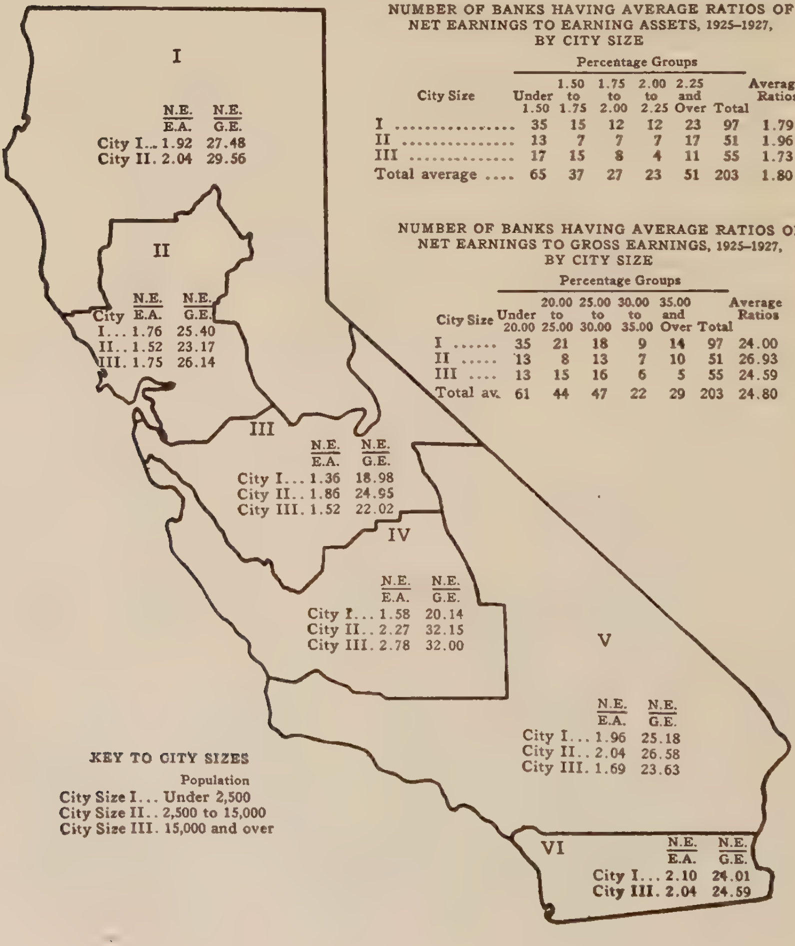
It is indicated earlier that, for the state as a whole, ratios of net earnings to earning assets vary according to the size of the city in which banks are located. When this criterion of variation alone is considered, banks in cities of 2,500 to 15,000 population are the most profitable. Does such variation also obtain in different parts of the state? According to Chart 68 (p. 286), the evidence is conflicting, the "other things" upon which the ratios depend serving in some areas to eliminate the variation. On the other hand, geographical differences for banks, irrespective of the size of city in which they are located, as shown in Chart 67, are with certain exceptions found to characterize banks by city size.

This fact is evident on Chart 68. In general, the ratios are high in the north, Zone I, and in the south, Zone VI. They are low in the center, Zone III, this condition on the whole being true for both measures of net earnings.

CHART 68

Average Ratios of Net Earnings to Earning Assets and to Gross Earnings for All Member Banks in California, by Zones and Sizes of Cities, 1925–1927, Combined

(Data for banks reporting all three years)



NUMBER OF BANKS HAVING AVERAGE RATIOS OF NET EARNINGS TO EARNING ASSETS, 1925–1927, BY CITY SIZE

City Size	Percentage Groups						Average Ratios
	Under 1.50	1.50 to 1.75	1.75 to 2.00	2.00 to 2.25	2.25 and Over	Total	
I	35	15	12	12	23	97	1.79
II	13	7	7	7	17	51	1.96
III	17	15	8	4	11	55	1.73
Total average	65	37	27	23	51	203	1.80

NUMBER OF BANKS HAVING AVERAGE RATIOS OF NET EARNINGS TO GROSS EARNINGS, 1925–1927, BY CITY SIZE

City Size	Percentage Groups						Average Ratios
	Under 20.00	20.00 to 25.00	25.00 to 30.00	30.00 to 35.00	35.00 and Over	Total	
I	35	21	18	9	14	97	24.00
II	13	8	13	7	10	51	26.93
III	13	15	16	6	5	55	24.59
Total av.	61	44	47	22	29	203	24.80

KEY TO CITY SIZES

	Population
City Size I...	Under 2,500
City Size II..	2,500 to 15,000
City Size III.	15,000 and over

Ratios of net earnings are also related to bank size, as indicated by the average amount of the earning assets. It is concluded above that the returns tend to vary inversely with size. That is, they are relatively large in the small and small in the large institutions. Moreover, it is shown that the returns are largest for banks with average earning assets of $1,000,000 to $3,000,000. Do these relations hold for banks in different parts of the state? Moreover, are differences for banks of the same class size encountered from area to area? Chart 69 (p. 288) will assist in answering these questions.

In only two of the zones, II and V, are the numbers of banks falling in each size class adequate to secure satisfactory averages. For these zones, the net earnings are relatively largest for the banks of medium size. Moreover, in terms of earning assets, they are relatively low for each size in Zone II and relatively high in Zone V. For the smallest size-group, which is adequately represented in all zones except VI, the low area is Zone III. From this level, the ratios rise in the regions to the north and to the south.

It is obvious that the differentials commented upon above and shown in Charts 67 to 69 are not entirely functions of location. No account is taken of bank type, for instance—a matter of importance. Neither do the averages reflect the variations from bank to bank. The amounts are intended to indicate average conditions only, variables other than those involved in the respective calculations being ignored. Despite these facts, differences of the nature indicated obtain, some of them being especially persistent.

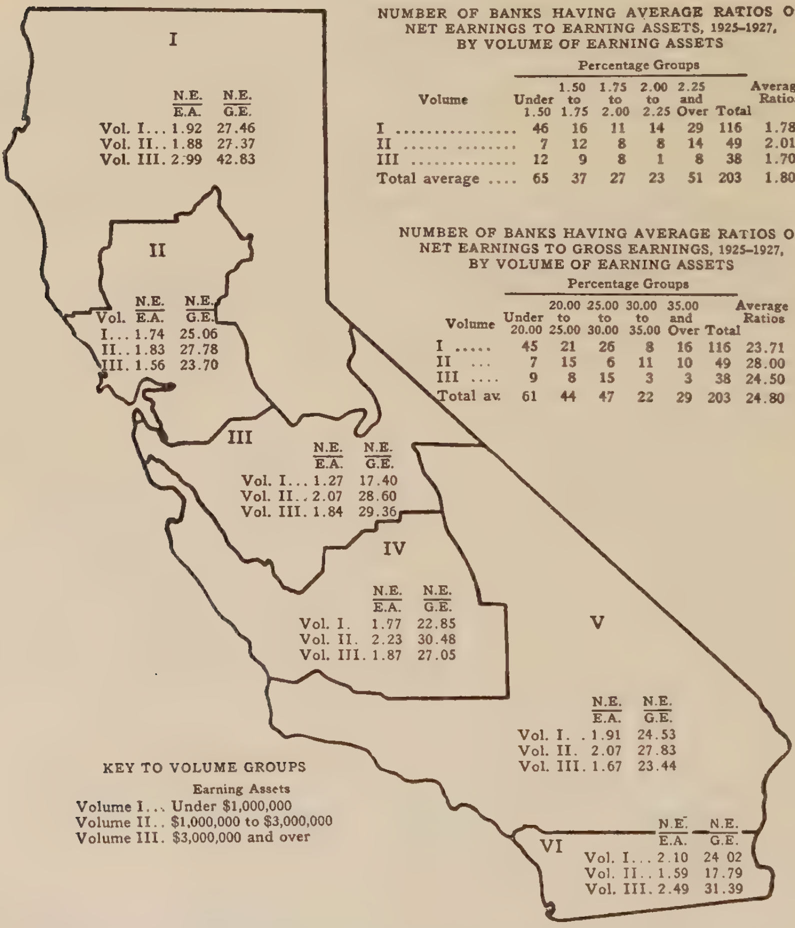
In Charts 67 to 69, average results are secured for given areas. In Charts 70 and 71, variable areas are indicated for given group-ratios, the first chart referring to areas having classified ratios of net earnings to earning assets, the second to those with classified ratios of net earnings to gross earnings.

An inspection of Chart 70 (p. 289) indicates that areas having given group-ratios of net earnings to earning assets are not always contiguous. This is clearly the case for the ratio-class "2.25 and Over." Areas falling in this group are found in the extreme north and south and along the coast north of Santa Barbara County. On the other hand, the area of lowest ratios—"Less than 1.50" per cent of earning assets—is continuous. Moreover,

CHART 69

AVERAGE RATIOS OF NET EARNINGS TO EARNING ASSETS AND TO GROSS EARNINGS FOR ALL MEMBER BANKS IN CALIFORNIA, BY ZONES AND VOLUME GROUPS, 1925–1927, COMBINED

(Data for banks reporting all three years)



NUMBER OF BANKS HAVING AVERAGE RATIOS OF NET EARNINGS TO EARNING ASSETS, 1925–1927, BY VOLUME OF EARNING ASSETS

Volume	Percentage Groups						Average Ratios
	Under 1.50	1.50 to 1.75	1.75 to 2.00	2.00 to 2.25	2.25 and Over	Total	
I	46	16	11	14	29	116	1.78
II	7	12	8	8	14	49	2.01
III	12	9	8	1	8	38	1.70
Total average	65	37	27	23	51	203	1.80

NUMBER OF BANKS HAVING AVERAGE RATIOS OF NET EARNINGS TO GROSS EARNINGS, 1925–1927, BY VOLUME OF EARNING ASSETS

Volume	Percentage Groups						Average Ratios
	Under 20.00	20.00 to 25.00	25.00 to 30.00	30.00 to 35.00	35.00 and Over	Total	
I	45	21	26	8	16	116	23.71
II ...	7	15	6	11	10	49	28.00
III	9	8	15	3	3	38	24.50
Total av.	61	44	47	22	29	203	24.80

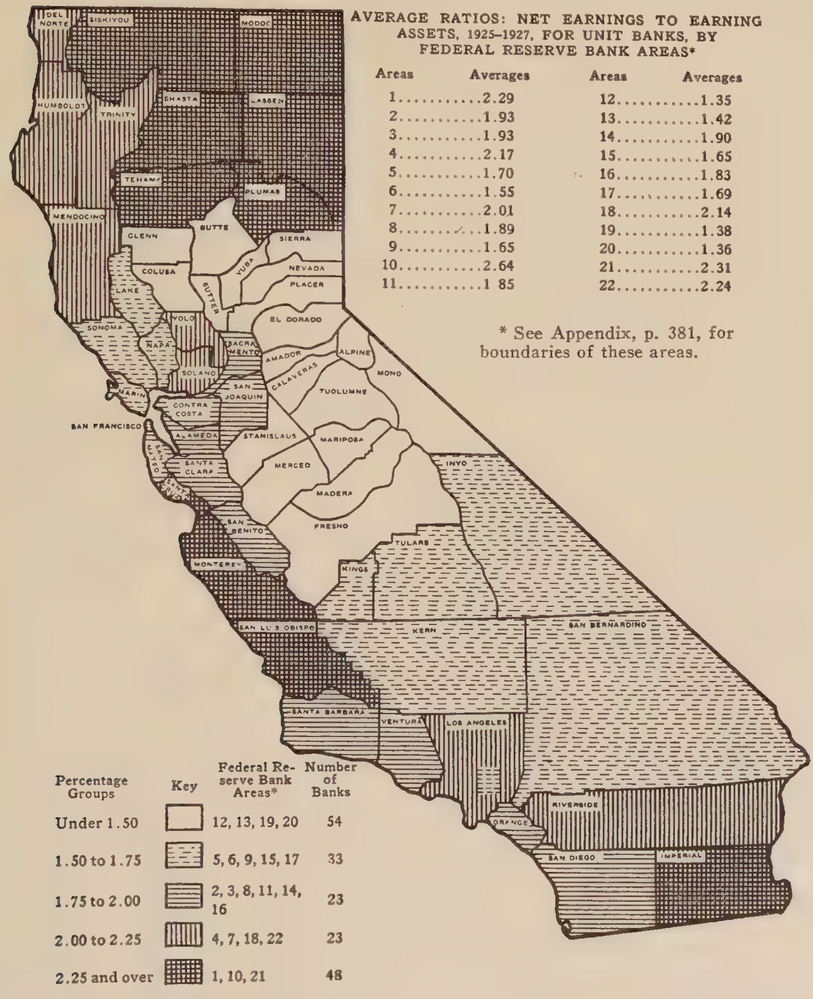
KEY TO VOLUME GROUPS

	Earning Assets
Volume I...	Under $1,000,000
Volume II..	$1,000,000 to $3,000,000
Volume III.	$3,000,000 and over

it is flanked by territories with ratios ranging from 1.50 to 2.25 and over. In Chart 67, Zone V, for instance, is treated as a unit, the average net earnings ratio to earning assets being 1.89 for the combined years. In Chart 70, this area is broken up into parts having three group-ratios, the amounts being relatively highest

CHART 70

REGIONS OF CALIFORNIA HAVING UNIT BANKS WITH CLASSIFIED AVERAGE RATIOS OF NET EARNINGS TO EARNING ASSETS, 1925 TO 1927



AVERAGE RATIOS: NET EARNINGS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	2.29	12	1.35
2	1.93	13	1.42
3	1.93	14	1.90
4	2.17	15	1.65
5	1.70	16	1.83
6	1.55	17	1.69
7	2.01	18	2.14
8	1.89	19	1.38
9	1.65	20	1.36
10	2.64	21	2.31
11	1 85	22	2.24

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas*	Number of Banks
Under 1.50	☐	12, 13, 19, 20	54
1.50 to 1.75	▤	5, 6, 9, 15, 17	33
1.75 to 2.00	☰	2, 3, 8, 11, 14, 16	23
2.00 to 2.25	▥	4, 7, 18, 22	23
2.25 and over	▦	1, 10, 21	48

* See p. 381.

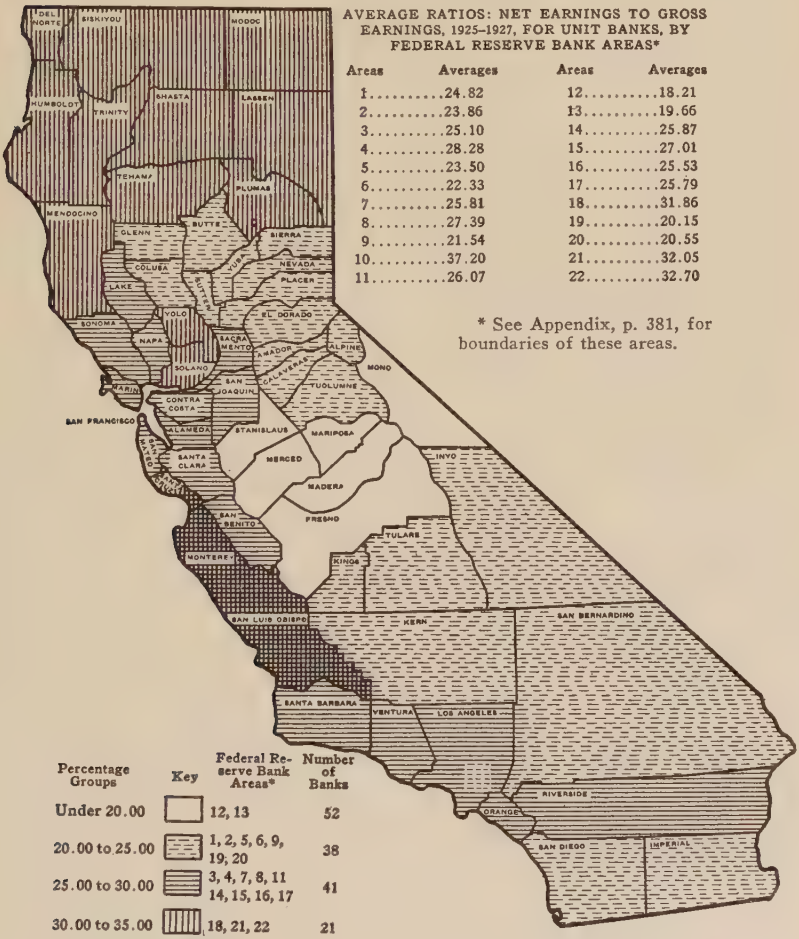
in Riverside County and in Los Angeles County outside of Los Angeles city, and relatively lowest in Los Angeles city and in San Bernardino and Inyo counties. The ratios in Santa Barbara, Ventura, and Orange counties hold an intermediate position. But in each of these distinctively marked areas variations obviously occur, these being associated with types of banks, their sizes, and locations. What these variations are is indicated in part in the tabular detail, from which it is apparent (1) that within each zone the ratios differ widely, and (2) that from zone to zone there are similar variations. Indeed, to take account of all of the differences would require not only that the institutions be distinguished individually but also that for each institution the conditions upon which net earnings depend be taken account of—obviously an impossible undertaking when the objective relates to characteristic levels and the differences between them.

Chart 71 is analogous to Chart 70, the only difference being that in the latter case net earnings are expressed in terms of gross earnings. In a general way the areas by relative amounts are much the same. This is to be expected, inasmuch as, by and large, districts having high or low ratios of net earnings to earning assets have high or low ratios of net earnings to gross earnings. There are, however, some marked contrasts in the area-groupings in the two charts, of which the following may be noted: First, although the size of the area having the lowest group-ratios of net earnings to gross earnings is somewhat different from that with the lowest group-ratios of net earnings to earning assets, its general position in the state—middle center—is the same. Second, the two coast counties, Monterey and San Luis Obispo, so far as ratios of net earnings to gross earnings are concerned, are in a class by themselves, their ratios falling in the highest group. With respect to net earnings to earning assets, their position is not unique. Third, the areas within given group-classes are more nearly contiguous for ratios of net earnings to gross earnings than for ratios of net earnings to earning assets.

Charts 70 and 71 are designed to contrast different parts of the state of California with respect to the net earnings of their member banks. Within each of the separate regions there are, of course, differences due to location. A bank is not only located in Riverside County, for instance, but also at some *place* in the county, and it is, among other things, the precise (city) as well as the general (county) location which is important in determining the net earnings. For the purpose of distinguishing local variations more precisely than is done in Charts 70 and 71, the exhibit on page 292 is presented.

CHART 71

Regions of California Having Unit Banks with Classified Average Ratios of Net Earnings to Gross Earnings, 1925 to 1927



AVERAGE RATIOS: NET EARNINGS TO GROSS EARNINGS, 1925–1927, FOR UNIT BANKS, BY FEDERAL RESERVE BANK AREAS*

Areas	Averages	Areas	Averages
1	24.82	12	18.21
2	23.86	13	19.66
3	25.10	14	25.87
4	28.28	15	27.01
5	23.50	16	25.53
6	22.33	17	25.79
7	25.81	18	31.86
8	27.39	19	20.15
9	21.54	20	20.55
10	37.20	21	32.05
11	26.07	22	32.70

* See Appendix, p. 381, for boundaries of these areas.

Percentage Groups	Key	Federal Reserve Bank Areas*	Number of Banks
Under 20.00	☐	12, 13	52
20.00 to 25.00	▤	1, 2, 5, 6, 9, 19, 20	38
25.00 to 30.00	▤	3, 4, 7, 8, 11 14, 15, 16, 17	41
30.00 to 35.00	▥	18, 21, 22	21
35.00 and over	▦	10	29

* See p. 381.

Ratios: Net Earnings to Earning Assets	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	62	34	12*	6*	4*	6*
Under 1.50	15	9	....	....	....	....
1.50 to 1.75	9	2	....	....	....	....
1.75 to 2.00	5	3	....	....	....	....
2.00 to 2.25	11	6	....	....	....	....
2.25 and Over	22	14	....	....	....	....
Riverside County	2.17	2.09	....†	....†	....	....
Orange County	2.00	1.85	2.13	....†	....	....
Los Angeles County	1.99‡	2.09	2.17	1.49	1.34	1.48
Average	1.97	2.05	2.15	2.10	1.34	1.48

* Too few cases to distribute.
† Too few banks to report separately.
‡ Does not include Los Angeles City.

Ratios: Net Earnings to Gross Earnings	Population of Cities (1920)					
Percentage Groups	Total	Under 2,500	2,500–15,000	15,000–50,000	50,000–100,000	100,000 and Over
Total	62	34	12*	6*	4*	6*
Under 15.00	8	5	.....	.....	.....	.....
15.00 to 20.00	8	5	.....	.....	.....	.....
20.00 to 25.00	8	3	.....	.....	.....	.....
25.00 to 30.00	18	8	.....	.....	.....	.....
30.00 to 35.00	11	6	.....	.....	.....	.....
35.00 and Over	9	7	.....	.....	.....	.....
Riverside County	28.28	25.76	.....†	.....†	.....	.....
Orange County	26.12	24.76	25.63	.....†	.....	.....
Los Angeles County	25.79‡	26.77	27.18	21.31	19.53	21.53
Average	25.88	26.23	26.95	30.21	19.53	21.53

* Too few cases to distribute.
† Too few banks to report separately.
‡ Does not include Los Angeles City.

The summary above for the three years 1925 to 1927, combined, shows the net earnings ratios of unit member banks located in Riverside, Orange, and Los Angeles counties. It provides the average ratios in terms of earning assets and of gross earnings for (1) the banks in the counties separately and combined, and (2) the distributions of the ratios for all banks and for those located in cities with population (1920) of less than 2,500. From these data and from the details which are here consolidated it is concluded for this part of the state that: (1) Net earnings ratios in terms of earning assets and of gross earnings tend to vary inversely with city size. This is the general experience. A corollary, however, needs to be added to the effect that a given ratio-class, either of net earnings to earning assets or to gross earnings, is not peculiar to a given city size alone. That is, conditions other than city size influence the ratios. (2) For a given city size, wide diversity of ratios is found. A fitting corollary to this generalization is as follows: For banks in a given city size, differences in the ratios of net earnings to earning assets or to gross earnings may be due to one or to all of the following conditions—size of bank, its type, composition of earning assets, deposits, and so on.

What is said up to this point in this chapter relates to the levels of net earnings ratios (1) for national banks in the country generally and in the Twelfth District, city averages being used; and (2) for member banks in the state of California. The outstanding conclusion is that the levels differ not so much from year to year for the respective classes, as from group to group, from area to area, and from size to size. The "terraced" condition found for ratios of gross earnings and of total expense obtains also for ratios of net earnings—the "contour of the terrain" in this case partaking of the characteristics of that of the respective conditions of which net earnings are the result. Being a by-product of antecedents, and these varying among themselves, sharpness of outline is sometimes blurred. Yet, in general, it is evident. How clearly marked, the discussion and the illustrative material, it is hoped, have made reasonably clear.

Whatever the levels of net earnings may be for particular banks or for groups of banks, changes occur. These are the outcome of a multitude of circumstances acting together, each depending not alone upon itself but also upon its relation to other conditions. It would be folly to attempt to trace back to their "origin" all such forces, and no such doubtful task is here attempted. On the contrary, for the time being at least, we shall content ourselves with noting the fact of change, and with indicating the types which, over the periods under review, take place in the ratios for national banks by cities, and in those of member banks in California by location and by volume of earning assets.

For national banks in the sixty-four cities, and for those in eight of these cities located in the Twelfth Federal Reserve District, over-all summaries of change are indicated immediately below.

RATIOS OF NET EARNINGS TO EARNING ASSETS FOR NATIONAL BANKS IN SIXTY-FOUR CITIES

YEAR	AVERAGE RATIOS (1922–1927)	DIRECTION AND AMOUNT OF CHANGE YEAR TO YEAR		NUMBER OF CITY RATIOS YEAR TO YEAR	
		Increasing	Decreasing	Increasing	Decreasing
1922	2.09	.....	.....	...	...
1923	1.76	.....	–0.33	12	52
1924	1.75	.....	–0.01	34	30
1925	1.64	.....	–0.11	24	40
1926	1.71	+0.07	.....	39	25
1927	1.63	.....	–0.08	28	36
Total (Average)	1.76	.....	.....	137	183

RATIOS OF NET EARNINGS TO EARNING ASSETS FOR NATIONAL BANKS IN EIGHT CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT

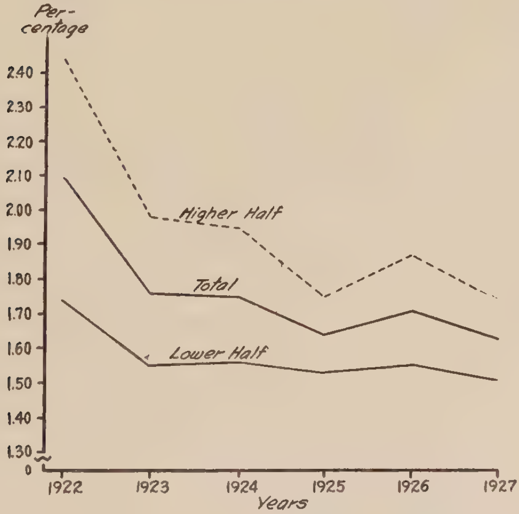
YEAR	AVERAGE RATIOS (1922–1927)	DIRECTION AND AMOUNT OF CHANGE YEAR TO YEAR		NUMBER OF CITY RATIOS YEAR TO YEAR	
		Increasing	Decreasing	Increasing	Decreasing
1922	2.08	.....	.....	..	..
1923	1.73	.....	–0.35	2	6
1924	1.68	.....	–0.05	4	4
1925	1.51	.....	–0.17	1	7
1926	1.63	+0.12	.....	6	2
1927	1.50	.....	–0.13	3	5
Total (Average)	1.69	.....	.....	16	24

It will be seen that the net average change in the ratios is downward, except between 1925 and 1926, this being the case for national banks in cities the country over and for those in cities in the Twelfth District. Of the total number of changes, 57 per cent for the first group and 60 per cent for the second are decreases. Is this downward tendency equally marked for city ratios occupying different levels? Answer to this question, so far as the country as a whole is concerned, is found in Chart 72, in which one line represents the average ratios for the national banks in the sixty-four cities. Its inclination is generally downward, the amount of the decrease, however, being relatively small subsequent to 1923. What about the changes from year to year of the ratios at different levels? Choosing 1922 to determine the levels of the ratios in the sixty-four cities, they are classified into two groups, one relatively high, the other relatively low. Average amounts are then secured for the respective groups, the same cities being included in each of the years. When these are plotted, as in Chart 72, it is found (1) that the over-all direction and the year-to-year types of change of the ratios which are high are the same as of those which are low; (2) that ratios which are initially high or low remain on the average high or low during all of the years; and (3) that the amounts of the year-to-year change —increases or decreases—are generally greater in the ratios termed "high" than are those in the ratios called "low."

CHART 72

Regression of Ratios of Net Earnings to Earning Assets for National Banks in Central Reserve, Reserve, and Other Reserve Cities, 1922 to 1927

(Arrayed in 1922—same banks each year)



It is of course recognized that the selective process used in 1922 gives a position-bias to the respective groups in this year. It is not evident, however, that this determines the types and amounts of change from year to year subsequently, although it would in part account for the fact that, throughout the years, the averages for the respective groups remain high or low. This relative stability, for our present purposes, is less significant than are the comparative changes—amounts and directions—in the two series.

In Chart 72, 1922 is used as the basis for selecting high and low ratios. Will results similar to those shown in this chart be secured if other years are chosen? Answer to this question is found in Chart 73, in which high and low ratios are compared, separation into two groups being made on arrays in each of the years. This chart contains certain tabular material, summarizing the distinctive year-to-year changes. It shows, first, that with a given array the directions of change in the two groups generally agree, although the amounts differ, ratios which are high falling more or rising less than those which are low; and, second, that the net average changes based upon all arrays are larger for ratios in the first than for those in the second class.

The regressive measurements in Chart 73 apply to amounts of net earnings in terms of earning assets, the patterns of change being of the same types as those previously presented for ratios of gross earnings and of total expense, similarly expressed.

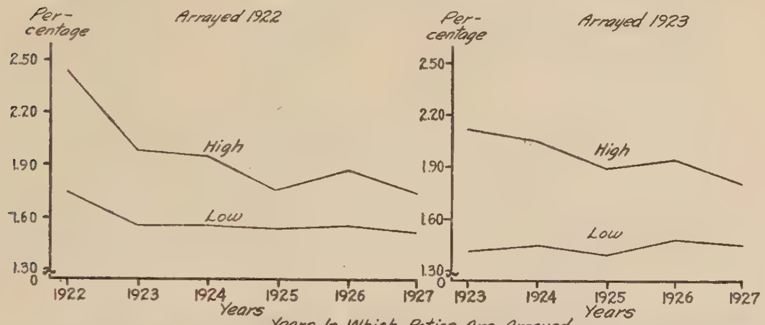
Net earnings are related not only to earning assets but also to gross earnings. What is the characteristic behavior of the ratios, expressed in this form, for national banks in Central Reserve, Reserve, and Other Reserve cities during the years 1922–1927? Chart 74 (p. 298) shows the trends and the year-to-year changes of the amounts which are "high" and of those which are "low," based upon different arrays. Here, again, high ratios behave differently from those which are low—they decrease more or increase less from year to year, this being the case with a given array, and for different arrays for a given pair of years.

Attention needs to be called again to the fact that in Charts 73 and 74 ratios for the same cities are compared throughout the years. The amounts are not selected in relation to their averages but solely with respect to their size, the average amounts for those which are high as for those which are low taking the place of the amounts for the individual cities.

The behavior pattern of the ratios for the sixty-four cities and for eight of them in the Twelfth District is presented in another way in Chart 75 (p. 299). In this case, average amounts for all first and for all second years are secured, these being determined

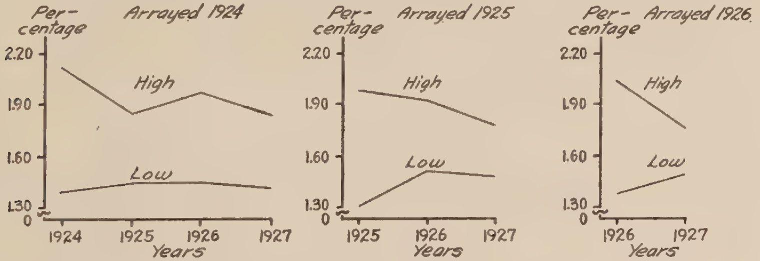
CHART 73

Average Amounts and Directions of Change of "High" and of "Low" Ratios of Net Earnings to Earning Assets in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



Years In Which Ratios Are Arrayed

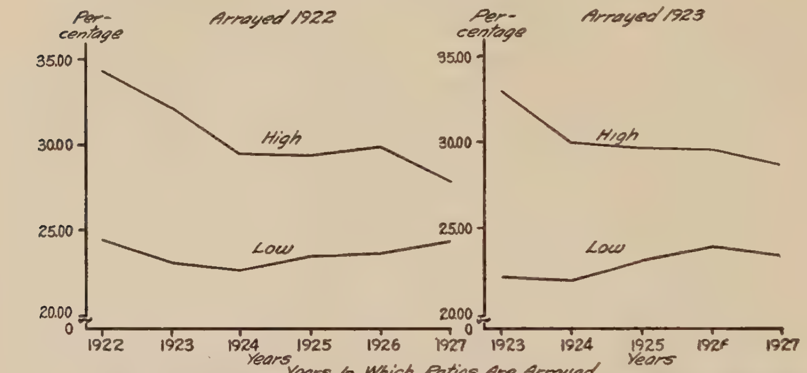
	Years	1922		1923		1924		1925		1926		Net Average Movement
		Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	
	1922	2.44										
	1923	1.98	-0.46	2.12								-0.46
Highest	1924	1.95	-0.03	2.06	-0.06	2.12						-0.04
Thirty-two	1925	1.75	-0.20	1.89	-0.17	1.84	-0.28	1.98				-0.22
	1926	1.87	+0.12	1.94	+0.05	1.97	+0.13	1.92	-0.06	2.04		+0.06
	1927	1.74	-0.13	1.80	-0.14	1.83	-0.14	1.77	-0.15	1.76	-0.28	-0.17
Net Av. Yearly Change			-0.14		-0.08		-0.10		-0.10		-0.28	X X
	1922	1.74										
	1923	1.55	-0.19	1.41								-0.19
Lowest	1924	1.56	+0.01	1.45	+0.04	1.39						+0.03
Thirty-two	1925	1.53	-0.03	1.39	-0.06	1.44	+0.05	1.30				-0.01
	1926	1.55	+0.02	1.48	+0.09	1.45	+0.01	1.51	+0.21	1.38		+0.08
	1927	1.51	-0.04	1.45	-0.03	1.42	-0.03	1.48	-0.03	1.49	+0.11	-0.004
Net Av. Yearly Change			-0.05		+0.01		+0.01		+0.09		+0.11	X X



when the amounts are arrayed each year. It is here found that ratios which are high tend to fall, and those which are low tend to rise, the amounts of change varying directly with the degree of displacement from normal or average conditions. Relative stability of the ratios in the respective classes is indicated by their positions on the scale in the first and in the second years; their regressive tendencies by the inclinations of the lines connecting such posi-

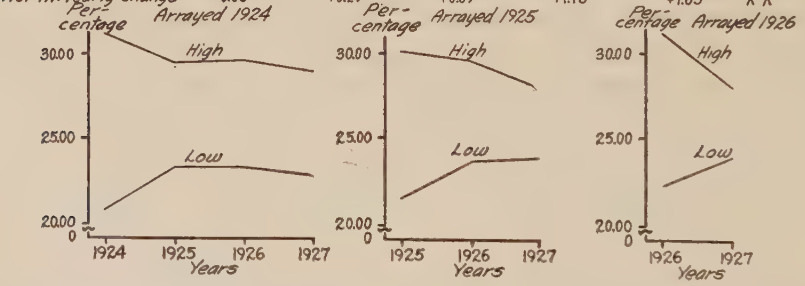
CHART 74

Average Amounts and Directions of Change of "High" and of "Low" Ratios of Net Earnings to Gross Earnings in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927



Years In Which Ratios Are Arrayed

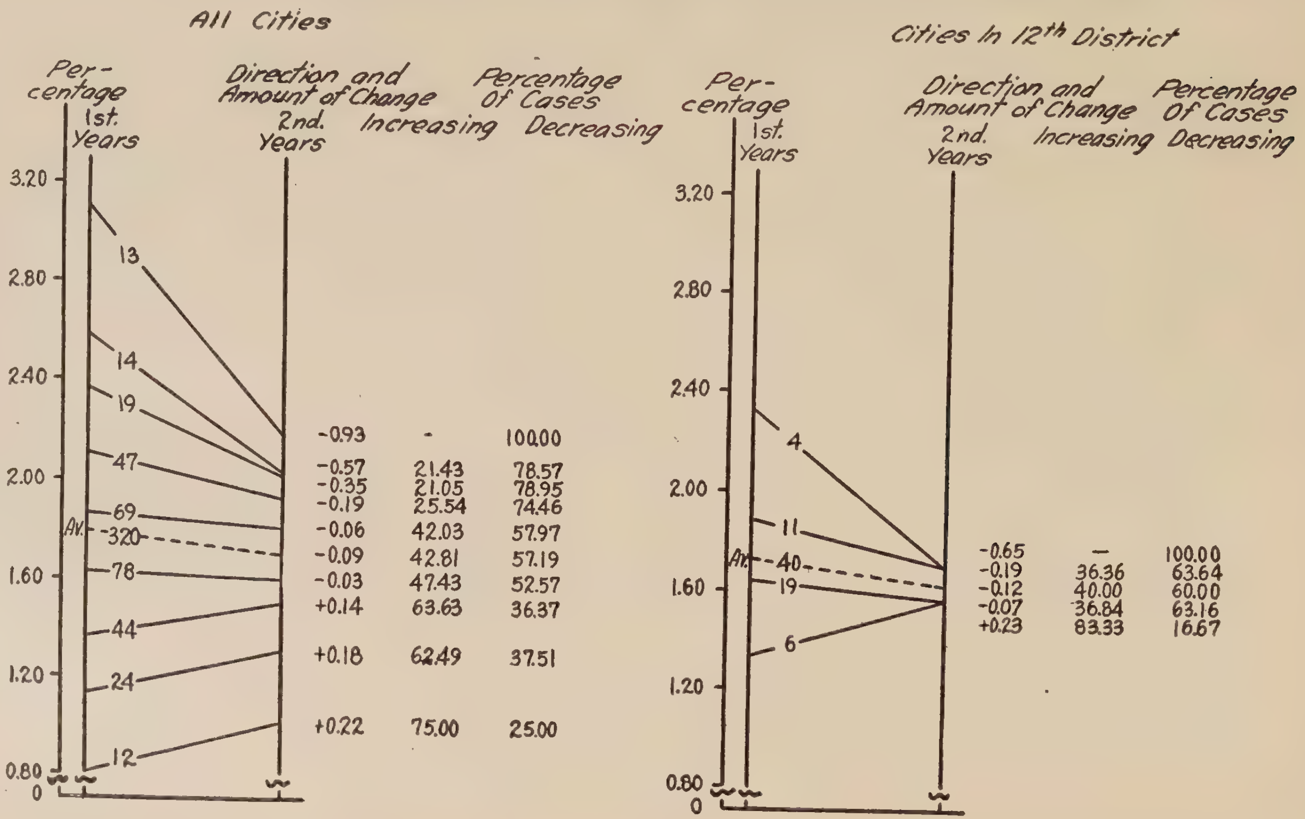
	Years	1922		1923		1924		1925		1926		Net Av.
		Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	Am't.	Change	Movement
	1922	34.26										
	1923	32.00	-2.26	32.91								-2.26
Highest	1924	29.36	-2.64	29.98	-2.93	31.14						-2.78
Thirty-two	1925	29.31	-0.05	29.63	-0.35	29.46	-1.68	31.15				-0.69
	1926	29.76	+0.45	29.46	-0.17	29.66	+0.20	29.62	-1.53	31.08		-0.26
	1927	27.74	-2.02	28.64	-0.82	29.03	-0.63	28.06	-1.56	28.12	-2.96	-1.60
Net Av. Yearly Change			-1.29		-1.07		-0.70		-1.55		-2.96	X X
	1922	24.43										
	1923	23.14	-1.29	22.23								-1.29
Lowest	1924	22.69	-0.45	22.07	-0.16	20.91						-0.30
Thirty-two	1925	23.47	+0.78	23.15	+1.08	23.32	+2.41	21.62				+1.42
	1926	23.59	+0.12	23.89	+0.74	23.38	+0.06	23.73	+2.11	22.27		+0.76
	1927	24.27	+0.68	23.38	-0.51	22.98	-0.40	23.95	+0.22	23.90	+1.63	+0.32
Net Av. Yearly Change			-0.03		+0.29		+0.69		+1.16		+1.63	X X



tions. There is regression between the first and the second years not only as measured by averages but also by frequencies—it being the rule, for national banks (by cities) in the country generally as well as for those in the Twelfth District, that the number of decreases predominates when the ratios are high and the number of increases predominates when the ratios are low. It appears to

CHART 75

REGRESSION OF RATIOS OF NET EARNINGS TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1922 TO 1927, FOR NATIONAL BANKS IN CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES



be a fact, based upon the average year-to-year experience of city ratios during the years 1922–1927, therefore, that if one were to select ratios which are relatively high in a given year, the normal expectation—indeed the certainty for those which average highest—is for them in the subsequent year to decrease. Contrariwise, if those which are low are selected, most of them will increase. Moreover, based upon past experience, it also appears that the expectation of increases is less certain than that of decreases, the prevailing tendency being for the ratios to decrease. Yet the degree of such expectation depends upon the level which is contemplated. Both increases and decreases occur—this is a certain fact. The point which is of interest, and which the material presented is intended to develop, is that neither is haphazard. They occur characteristically in ratios at different levels, the pattern being discernible not alone for one but for both bodies of material presented in Chart 75.

So much for the behavior of ratios of net earnings to earning assets for national banks by cities! Similar regressive tendencies characterize ratios of net earnings to gross earnings for these banks. This is clear from Chart 76. During a part of the period to which these data apply, what was occurring in the ratios of net earnings to earning assets for individual member banks located in California? The foregoing discussion concerning the levels of such ratios shows them to change from year to year, to be different for banks by type, size, and location, differences being characteristic not only of them treated in groups but also of them individually. From these diverse levels changes from year to year occur. Is there any way in which these may be summarized, and from such summaries generalizations be made? There is, but for this purpose averages and measures of preponderancy are necessary to isolate them.

Chart 77 (p. 303) illustrates the year-to-year changes of ratios of net earnings to earning assets of member banks in California, first for the state as a whole, and second by zones.[1] To secure the results shown in this chart the amounts are placed in frequency groups in 1925. Averages are then computed group by group for 1925, 1926, and 1927, the same institutions being included in

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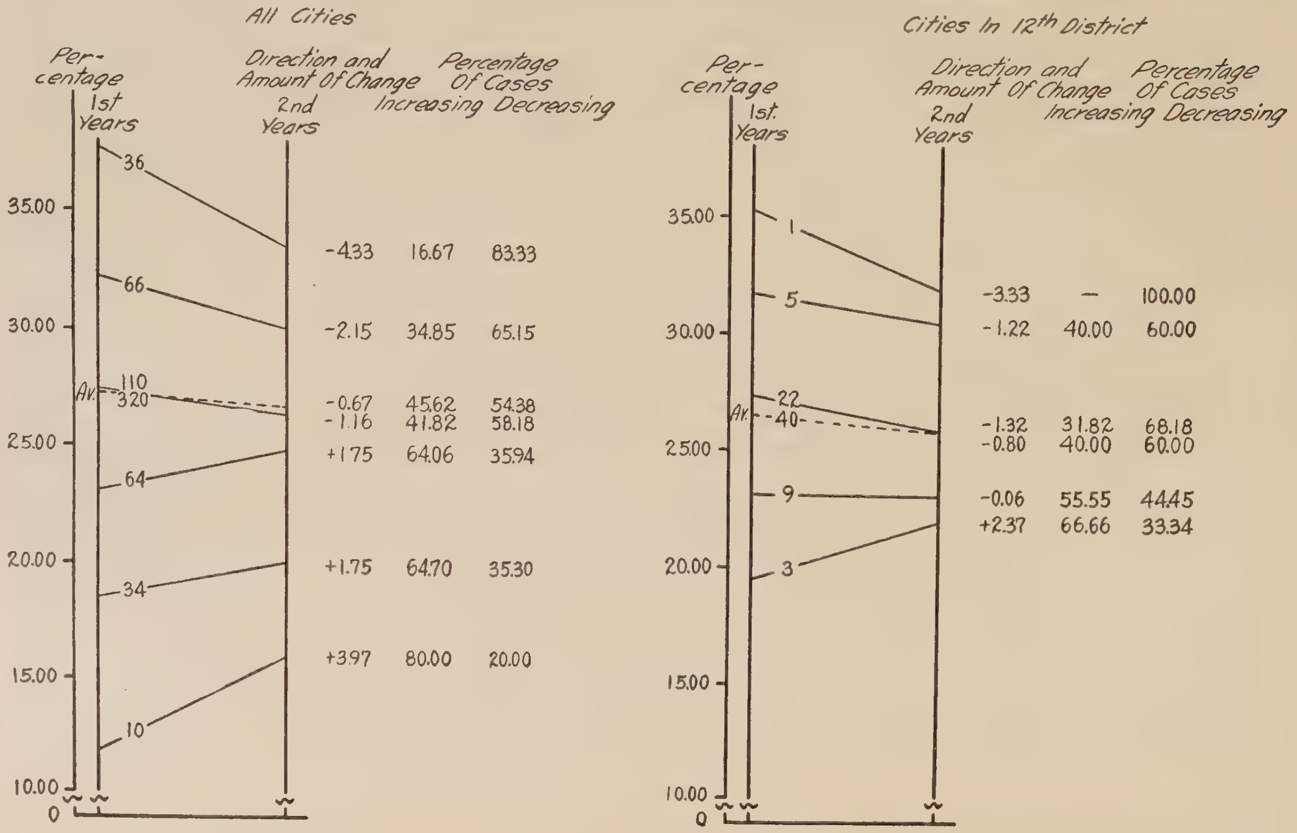
[1] For boundaries of the smaller regions which when combined give those used, see Chart 96, Appendix, p. 381.

CHART 76

Regression of Ratios of Net Earnings to Gross Earnings from Year to Year for All Pairs of Years, 1922 to 1927, for National Banks in Central Reserve, Reserve, and Other Reserve Cities



the respective classes each year. This procedure is the equivalent—except that averages are used—of comparing year by year the amounts for individual banks, a difficult undertaking for 203 institutions. Accordingly, each point on the ordinate scale opposite the respective years may be considered the center—"center of gravity," since arithmetic means are employed—around which the amounts for the individual banks cluster. From year to year the averages increase or decrease—so also do the different amounts entering into them—and it is appropriate, therefore, to observe the types of changes in both. So far as the averages are concerned, Chart 77 tells the story of what happened. The behavior of the individual amounts, for the state as a whole, is summarized in the left-hand portion of Table 65.

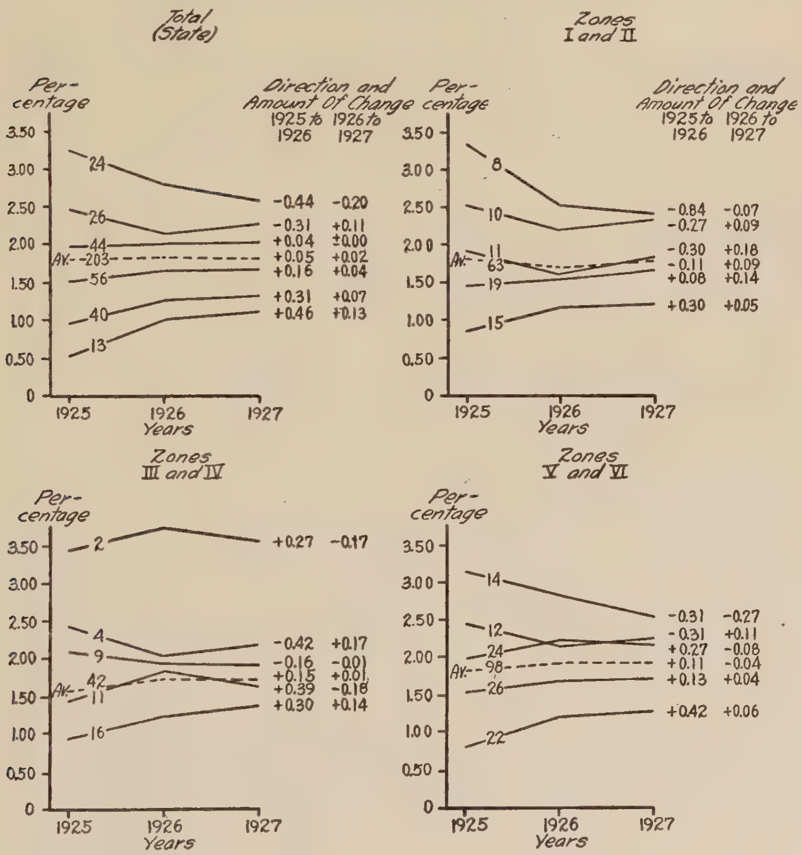
Even a casual inspection of Chart 77 shows a behavior pattern. There is, first, the fact of change—the average ratios from year to year do not remain constant. Further observation shows, second, that the ratios which are high (low) in 1925 remain relatively high (low) in the other years. But, third, the averages in 1926 are not so high or so low as they are in 1925, nor in 1927 as they are in 1926. To this generalization there are some exceptions. Fourth, the higher or lower the ratios in 1925, the more they respectively decrease or increase between 1925 and 1926, and 1926 and 1927. Fifth, ratios which increase or which decrease between 1925 and 1926 generally, although not always, continue the same direction of change between 1926 and 1927, this being the case despite the general direction of change as shown by the averages for the entire number of banks.

The changes, as thus briefly summarized for member banks in California for the years 1925 to 1927, are of the same types as those given in Chart 73 for national banks for the country generally. It is the familiar pattern of regression to type found to obtain for other ratios indicative of the processes and results of bank management. Moreover, it characterizes banks in California classified not only by zones but also by size—average amounts of earning assets. This fact is shown on Chart 78 (p. 305), in which the results in units of earning assets are graphically illustrated for the state as a whole and for three size-groups. Furthermore, the same type of pattern emerges when the ratios are expressed in terms of gross earnings, the basis of classification being location and size.

CHART 77

Regression of Ratios of Net Earnings to Earning Assets for California Member Banks, 1925 to 1927, by Zones

(Arrayed in 1925—same banks each year)



In Chart 78, comparative averages are secured for each year according to an array in 1925. In Chart 79 (p. 306), on the other hand, similar results are obtained for the two pairs of years, 1925 and 1926, and 1926 and 1927, in the first years of which the amounts are arrayed. This procedure is equivalent (1) to plotting the individual ratios in the two pairs of years according to a scale of amounts, (2) dividing the scales in the first years of the two pairs into uniform groups, (3) averaging the amounts in the

TABLE 65

PROPORTION OF RATIOS OF NET EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, INCREASING AND DECREASING FROM YEAR TO YEAR, ACCORDING TO DIFFERENT ARRAYS

Ratios: Net Earnings to Earning Assets (*Percentage Groups*)	Proportion of Ratios Increasing and Decreasing					
	Arrayed in 1925				Arrayed in 1925 and Re-arrayed in 1926	
	1925 to 1926		1926 to 1927			
	Increasing	Decreasing	Increasing	Decreasing	Increasing 1925 to 1926 and 1926 to 1927	Decreasing 1925 to 1926 and 1926 to 1927
Total	55.17	44.83	54.18	45.82	54.44	45.56
Under 0.75	84.60	15.40	53.84	46.16	88.88	11.12
0.75 to 1.25	75.00	25.00	60.00	40.00	73.32	26.68
1.25 to 1.75	58.93	41.07	60.72	39.28	59.81	40.19
1.75 to 2.25	50.00	50.00	52.28	47.72	48.42	51.58
2.25 to 2.75	30.77	69.23	53.85	46.15	35.59	64.41
2.75 and over	33.33	66.67	33.33	66.67	25.58	74.42

first years and in the second years, and (4) plotting the results. Comparisons made in this manner being justified for two years which are consecutive, equal validity attaches to comparisons of a series of pairs of years such as those shown in Chart 79 for member banks in California.

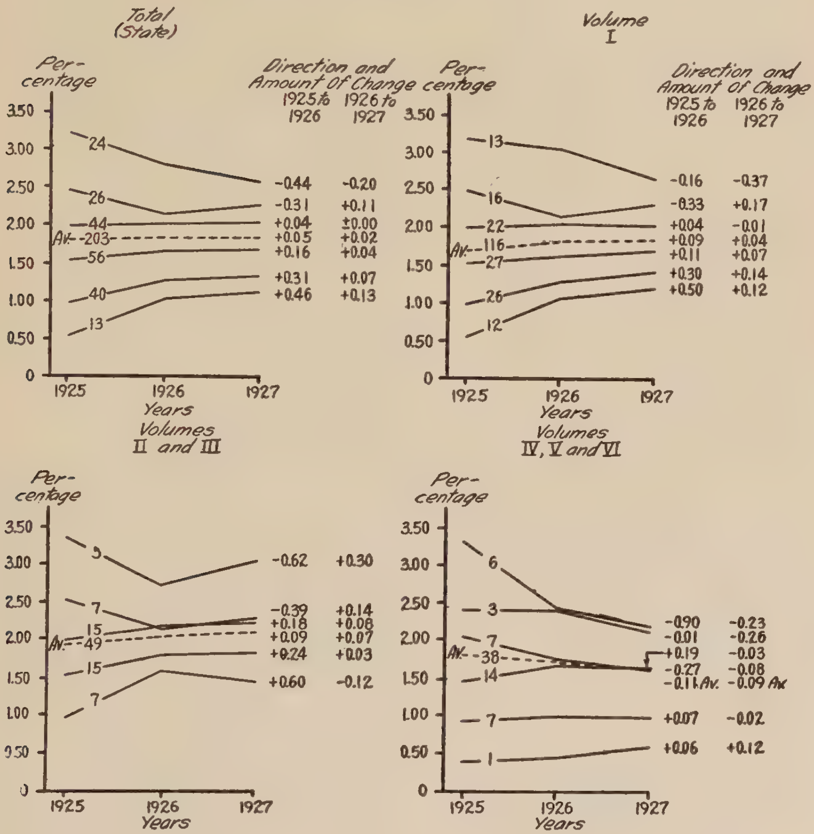
Here the regression pattern is striking—it being the rule, based upon the two pairs of years, for ratios which are high to decrease, and for those which are low to increase, the amounts of change, positive and negative, varying directly with the amounts of displacement from average conditions. Not only do the averages but also the frequencies behave in the manner indicated, the latter tendency being evident from the detail in the right-hand section of Table 65. For the entire experience, increases relative to decreases stand as 54 to 46; for ratios in the first years, "Less than 0.75" per cent, there are eight times as many increases as decreases; and for those ratios in the first years which are "2.75 and Over" per cent, there are three times as many decreases as increases in subsequent years.

The material in the present chapter relates to the end-results of bank management. How and why the conditions here indicated emerge is a complicated affair, depending as they do upon the immediate antecedents, gross earnings and total expenses, which in turn depend upon other antecedents, each of which, while exerting its separate influence, is not independent of the other. In what has been said up to this point about net earnings, chief at-

CHART 78

Regression of Ratios of Net Earnings to Earning Assets for California Member Banks, 1925 to 1927, by Volume Groups

(Arrayed in 1925—same banks each year)

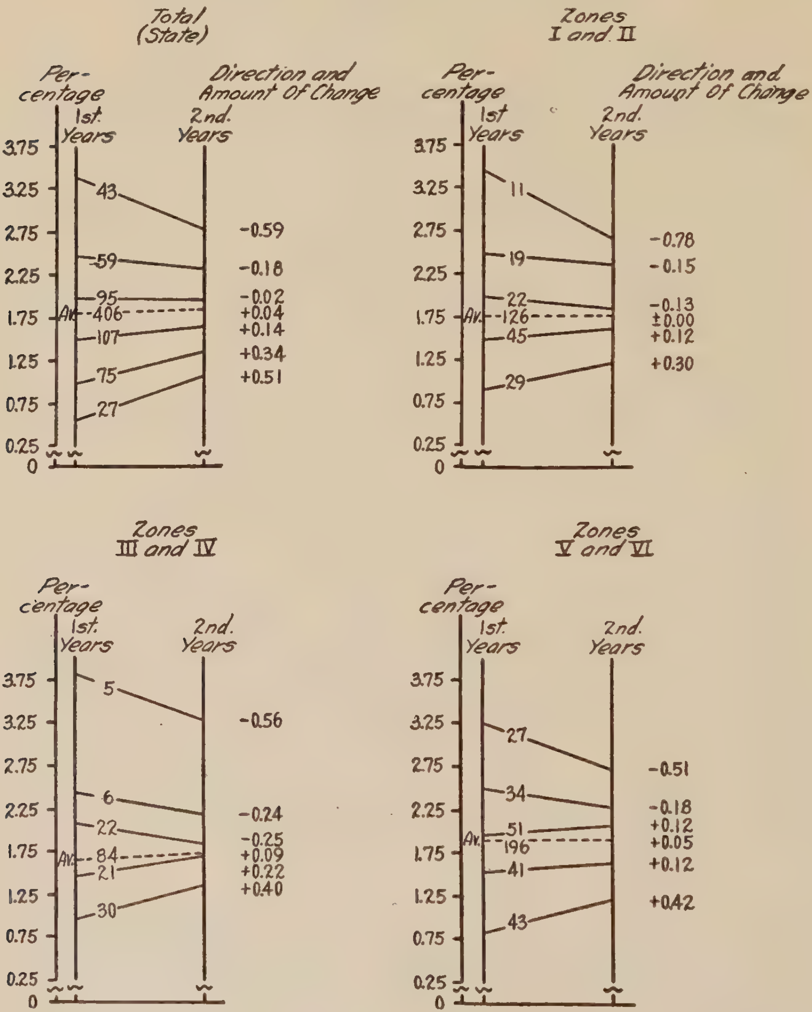


tention has been given to a single strand in the web of business as it is illustrated in the case of banking. How the strand of net earnings is interwoven with others is the subject now to be considered.

In a single bank, the sum of the total expenses and the net earnings, both as actual amounts and as ratios, when the same basis for measuring them is used, is equal to the gross earnings. Inversely stated, the difference between gross earnings and total

CHART 79

Regression of Ratios of Net Earnings to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for California Member Banks, by Zones



expenses gives net earnings. If the gross earnings ratio of a given institution is 7 per cent and the total expense ratio 5 per cent, the net earnings ratio is 2 per cent. This, of course, is perfectly obvious. But for the purposes of this study, the net earnings, the total expense, and the gross earnings ratios of a number of banks must of necessity be considered, the amounts of which, and the relations between which, vary, thus making it necessary to use averages in order to reduce the various ratios to a common denominator and to express in a single amount the varied degrees of relationship.

To be specific: Let it be supposed that the following are the gross earnings, total expense, and net earnings ratios, all in terms of earning assets, of three banks.

		HYPOTHETICAL RATIOS TO EARNING ASSETS		
BANK	YEAR	Gross Earnings	Total Expense	Net Earnings
1	1925	7.54	6.62	0.92
	1926	6.38	5.64	0.74
	1927	7.16	6.77	0.39
2	1925	7.92	6.26	1.66
	1926	9.75	6.43	3.32
	1927	8.47	6.17	2.30
3	1925	7.93	7.42	0.51
	1926	7.69	5.78	1.91
	1927	7.49	6.24	1.25

Out of the variations, as here suggested for all of the banks, the problem is to determine (1) the average relationship between the three ratios for the group as a whole, and for each significant class; and (2) to measure the relative contribution of variations of gross earnings and of total expense, separately and in combination, to the variations in net earnings, when they are considered as (*a*) final determinants and (*b*) intermediate factors, each of which is dependent in varying degrees upon prior circumstances of bank operation, such prior conditions themselves varying from bank to bank at the same time and for a given institution at different times. Such an effort may at once be considered hopeless and, indeed, in a final sense it is. All that an analysis suitable to this study can hope to accomplish is to suggest some of the more important factors which, with others operating at the same time, are influential in determining the end-results of bank management—net earnings.

Much of what is said in previous chapters has an intimate relation to the subject-matter of this. It is pointless, however, to attempt a recapitulation of all that is concluded. What is here done is to select certain of the conditions with which as a rule total expense and gross earnings ratios are found to be associated, and briefly to indicate the bearing which such association has on the subject-matter now under discussion. The treatment is complicated by the fact that two bodies of information are being reviewed, and that these apply to different years. Out of the welter of diversity, only those conditions concerning which there is the greatest degree of uniformity of relationship are selected for the purpose of tracing through the strands representing the results of bank management which, as they intertwine, determine the final outcome.

In the foregoing statement of the ratios of gross earnings, of total expense, and of net earnings of three hypothetical banks, no two of the amounts are the same. Since these stand for the diversity for all banks, generalization seems impossible. And so it is for these institutions alone, but not for the entire number or for any appreciable portion of a group. This fact, it is believed, is conclusively shown in the preceding discussion.

Back of the ratios are conditions upon which they individually and in relation to each other stand, these, among others, being the composition of the earning assets and of the deposits. Accordingly, in order to suggest their diversity, fictitious ratios of loans and discounts to earning assets are added to the detail above presented. The data are now as follows:

Bank	Year	Hypothetical Ratios to Earning Assets			
		Loans and Discounts	Gross Earnings	Total Expense	Net Earnings
1	1925	76.04	7.54	6.62	0.92
	1926	77.03	6.38	5.64	0.74
	1927	75.33	7.16	6.77	0.39
2	1925	78.45	7.92	6.26	1.66
	1926	83.77	9.75	6.43	3.32
	1927	81.79	8.47	6.17	2.30
3	1925	56.09	7.93	7.42	0.51
	1926	51.75	7.69	5.78	1.91
	1927	51.24	7.49	6.24	1.25

It will be noted that no two of the ratios of loans and discounts to earning assets are alike, the ratios differing from institution to institution and from time to time for the same institution. Again, generalization seems impossible, but this is not the case, as has been shown earlier and as will be commented upon later. Each of the ratios, gross earnings, total expense, and net earnings, is functionally related to ratios of loans and discounts, but they do not depend upon them alone. For instance, they are closely associated with ratios of demand deposits to earning assets. These, however, vary from bank to bank, as do the other ratios, thus still further complicating the problem of generalization. Typical ratios of demand deposits to earning assets, together with the others previously presented, follow:

Hypothetical Ratios to Earning Assets

Bank	Year	Demand Deposits	Loans and Discounts	Gross Earnings	Total Expense	Net Earnings
1	1925	57.98	76.04	7.54	6.62	0.92
	1926	48.34	77.03	6.38	5.64	0.74
	1927	60.76	75.33	7.16	6.77	0.39
2	1925	61.84	78.45	7.92	6.26	1.66
	1926	61.75	83.77	9.75	6.43	3.32
	1927	52.13	81.79	8.47	6.17	2.30
3	1925	94.39	56.09	7.93	7.42	0.51
	1926	92.73	51.75	7.69	5.78	1.91
	1927	79.58	51.24	7.49	6.24	1.25

With these ratios as illustrative of the diversity which obtains, and suggestive of other series having similar variations, the reader is in a position to appreciate some of the difficulties by which one is confronted in defining with precision the conjunction of circumstances which tends to account for differences and similarities in ratios of net earnings. As a background for such an undertaking, it will be helpful to restate in summary form a few of the types of association which have been discovered. This is done in Table 66 (p. 310).

Observe from this table that for the groups of banks specified,

Gross earnings ratios tend to be high (low) when the following ratios are high (low):

loans and discounts to earning assets;
demand deposits to earning assets;
demand deposits to total deposits;
total expense to earning assets.

TABLE 66

Correlation of Ratios in Paired Series—National Banks, by Cities, 1922–1927, and California Member Banks, 1925–1927

Independent Variables		National Banks—Sixty-four Cities*			California Member Banks†		
		Dependent Variables—Positions of, Relative to Their Averages					
Ratios:	Positions with Respect to Their Averages*†	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets
Loans and Discounts to Earning Assets	Above Below	Above Below	Above Below	Above Below	Above Below	Above Below	Above Below
Total Deposits to Earning Assets	Above Below	Below Above	Above Above	Below Above	Above Below	Above Below	Below Above
Demand Deposits to Earning Assets	Above Below	Above Below	Above Below	Above Below	Above Below	Above Below	Above Below
Demand Deposits to Total Deposits	Above Below	Above Below	Above Above	Above Below	Above Below	Below Above	Above Below
Time Deposits to Earning Assets	Above Below	Below Above	Above Above	Below Above	Above Above	Above Below	Below Above
Time Deposits to Total Deposits	Above Below	Below Above	Above Above	Below Above	Below Above	Above Below	Below Above
Gross Earning to Earning Assets	Above Below	....	Above Below	Above Below	....	Above Below	Above Below
Total Expense to Earning Assets	Above Below	Above Below	....	Above Below	Above Below	....	Below Above

* Deviations from the six-year averages of the respective cities, 1922–1927, combined.
† Deviations from the respective yearly averages of the respective volume groups, 1925–1927.

It is found also that

Total expense ratios tend to be high (low) when the following ratios are high (low):

loans and discounts to earning assets;
demand deposits to earning assets;
gross earnings to earning assets.

Similarly, ratios of

Net earnings tend to be high (low) when the following ratios[1] are high (low):

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[1] The reverse of these relations tends also to be true. See Appendix Tables 187–188, and 191–203, pp. 513–514, and 517–529, for ratios correlated with ratios of net earnings to earning assets.

loans and discounts to earning assets;
demand deposits to earning assets;
demand deposits to total deposits;
gross earnings to earning assets.

That is,

High (low) ratios of gross earnings, of total expense, and of net earnings are found to accompany high (low) ratios of
  loans and discounts to earning assets, and of
  demand deposits to earning assets.

Accordingly, it is necessary to study the relative effect which variations in these factors have on gross earnings and on total expense ratios, and through them on ratios of net earnings. This must be done, however, with the knowledge that

High (low) ratios of gross earnings are generally found with high (low) ratios of total expense;

High (low) ratios of gross earnings normally accompany high (low) ratios of net earnings; and

High (low) ratios of total expense tend to be accompanied by low (high) ratios of net earnings.[1]

And, further, in the light of the following relations between loans and discounts and demand deposit ratios, both expressed in terms of earning assets:

High (low) ratios of loans and discounts are customarily found with high (low) ratios of demand deposits;

High (low) ratios of demand deposits generally accompany high (low) ratios of loans and discounts.

In Table 67 (p. 312), account is taken of the relative positions of gross earnings, of total expense, and of net earnings ratios accompanying high or low ratios of loans and discounts and of demand deposits to earning assets treated simultaneously, the details making provision for the relative number of such ratios for national banks by cities and for California member banks as a whole. Other things being equal,

If gross earnings ratios are high, net earnings ratios are high;
If total expense ratios are low, net earnings ratios are high.

But high (low) ratios of gross earnings are generally found with high (low) ratios of total expense. Accordingly, Table 67 also

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[1] For national banks by cities the correlation is moderately direct.

TABLE 67

PROPORTION OF CASES OF RATIOS OF GROSS EARNINGS, OF TOTAL EXPENSE, AND OF NET EARNINGS TO EARNING ASSETS ABOVE OR BELOW THEIR RESPECTIVE AVERAGES RELATIVE TO THE POSITIONS OF RATIOS OF LOANS AND DISCOUNTS AND OF DEMAND DEPOSITS TO EARNING ASSETS

		Proportion of Cases			
Ratios: Loans and Discounts to Earning Assets	Ratios: Demand Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets	
		Above the Average	Below the Average	Above the Average	Below the Average
A. NATIONAL BANKS, BY CITIES, 1922–1927*					
Above the Average	Above the Average	70.19	35.58	58.65	41.35
Above the Average	Below the Average	53.49	45.35	48.84	51.16
Below the Average	Above the Average	41.76	59.34	47.26	52.74
Below the Average	Below the Average	33.98	63.11	32.04	67.96
B. CALIFORNIA MEMBER BANKS, 1925–1927†					
Above the Average	Above the Average	57.45	45.21	61.17	38.83
Above the Average	Below the Average	45.26	48.90	41.60	58.40
Below the Average	Above the Average	47.06	55.88	52.94	47.06
Below the Average	Below the Average	37.36	67.04	39.56	60.44

* Deviations from the respective city averages, 1922–1927.

† Deviations from the respective yearly averages of the respective volume groups, 1925–1927.

gives the proportion of the net earnings ratios which are high or low for given positions of loans and discounts and of demand deposits. Observe that

> Gross earnings ratios are relatively most frequently high when loans and discounts and demand deposits are above their averages, and that
>
> Gross earnings ratios are relatively least frequently high when loans and discounts and demand deposits are below their averages.

The proportion, under the first condition, for national banks by cities, is 70 per cent, and under the latter, 34 per cent. That is, when the two ratios are both relatively high—it will be remembered that they tend to be positively correlated— more than twice as large a percentage of gross earnings ratios is high as is the case when they are both low. Accordingly, if other things were equal, net earnings ratios would tend more frequently to be high than low under these conditions. But they are not equal, because

> Total expense ratios tend relatively to be least frequently low when loans and discounts and demand deposits are both high, and most frequently low when the ratios are both low.

That is, the conditions which tend to give high (low) gross earnings give high (low) total expense ratios. Accordingly, how are ratios of net earnings affected? Table 67, in the two columns at the right, provides the answer to this question for the two bodies of bank data. Observe, for national banks and for California members, that

> Net earnings ratios are relatively most frequently high when ratios of loans and discounts and of demand deposits are both high, despite the fact that these conditions generally produce high gross earnings and high total expense;
>
> Net earnings ratios are relatively most frequently low when ratios of loans and discounts and of demand deposits are both low. Under these conditions ratios of gross earnings are relatively least frequently high and those of total expense relatively most frequently low.

All of this seems to indicate that, under given conditions respecting ratios of loans and discounts and of demand deposits,

> Net earnings ratios are more commonly high when gross earnings and total expense ratios are high than when the two latter ratios are both low.

But this conclusion is premature, because ratios of net earnings, of total expense, and of gross earnings, under the conditions cited, must be considered simultaneously in order to demonstrate the truth or error of this contention. Material for doing this is provided in Table 68 (p. 314).

A comparison of Tables 67 and 68 is, therefore, of interest. Observe for national banks—Table 68, Part A—that

> Net earnings ratios are generally above their averages—(high)—despite the positions of ratios of loans and discounts and of demand deposits relative to their respective averages, when gross earnings and total expense ratios are high. Contrariwise,
>
> Net earnings ratios are generally below their averages—(low)—irrespective of the ratios of loans and discounts and of demand deposits, relative to their respective averages, when gross earnings and total expense are low.

That is, for this body of data,

> High ratios of gross earnings and of total expense more frequently conduce to high net earnings ratios than do those of low ratios of gross earnings and of total expense.

Moreover, when ratios of gross earnings and of total expense are both high, net earnings ratios are relatively most frequently

TABLE 68

Proportion of Cases of Ratios of Net Earnings to Earning Assets above or below Their Averages Relative to the Positions of Ratios of Loans and Discounts, Demand Deposits, Gross Earnings and Total Expense to Earning Assets

Ratios: Loans and Discounts to Earning Assets	Ratios: Demand Deposits to Earning Assets	Proportion of Cases			
		Ratios: Net Earnings to Earning Assets		Ratios: Net Earnings above Their Average	
				Ratios of Gross Earnings and of Total Expense	
		Above the Average	Below the Average	Above the Average	Below the Average
A. National Banks, by Cities, 1922–1927*					
Above the Average	Above the Average	58.65	41.35	68.85	28.00
Above the Average	Below the Average	48.84	51.16	67.50	27.27
Below the Average	Above the Average	47.26	52.74	65.52	33.33
Below the Average	Below the Average	32.04	67.96	61.53	14.29
B. California Member Banks, 1925–1927†					
Above the Average	Above the Average	61.17	38.83	57.14	70.50
Above the Average	Below the Average	41.60	58.40	41.67	43.40
Below the Average	Above the Average	52.94	47.06	35.73	64.87
Below the Average	Below the Average	39.56	60.44	35.56	33.33

* Deviations from the respective city averages, 1922–1927.

† Deviations from the respective yearly averages of the respective volume groups, 1925–1927.

high when loans and discounts and demand deposits are high. Contrariwise, net earnings ratios are relatively least frequently high when ratios of gross earnings, of total expense, of loans and discounts, and of demand deposits are all relatively low. Based upon this experience alone, therefore, bank management should strive for relatively high ratios of loans and discounts and of demand deposits to earning assets. Such conditions are normally accompanied by relatively large gross earnings and total expense, the relation between which gives relatively high net earnings on each dollar of earning assets. Contrariwise, management should avoid low ratios of loans and discounts and of demand deposits to earning assets because the normal accompaniments of these conditions are relatively few cases of high gross earnings, many cases of high total expense, and few cases of high net earnings.

These several relationships do not all obtain for member banks in California. Among these banks, as judged by the amounts of net earnings received on each $100 of earning assets, the most successful management is seemingly that which secures relatively large percentages of earning assets in the form of loans and discounts and of demand deposits. In this respect, the two bodies of data in Table 68 indicate a common result. But, for the California member banks, under these conditions, as shown by Table 67, Part B, high gross earnings ratios are less common and low total expense ratios more common than for national banks (by cities) for the country generally, the result being that net earnings ratios are relatively more frequently large, as shown by Table 68, Part B, when gross earnings and total expense ratios are relatively low than they are when they are both relatively high. In this case, therefore, high loans and high demand deposits conduce to high net earnings, but these most frequently occur when gross earnings and total expense ratios are both low.

But, of course, high (low) ratios of gross earnings and of total expense are functionally related not alone to the series under consideration, but to others as well, each of which, in determining their relative amounts, influences net earnings. It suffices for our present purpose to indicate the fact that net earnings ratios are relatively most frequently high when ratios of loans and discounts and of demand deposits are both high, despite the fact that such conditions occasion relatively high gross earnings and total expense, the result, in the case of the national banks, seemingly being attributable to advantages arising through relatively higher gross earnings, and in the case of the California member banks through relatively lower total expense.

Whatever may be the antecedent conditions of gross earnings and of total expense ratios, the two are unmistakably interrelated, it being the marked tendency for these ratios, when measured against their respective average levels for the same institutions (groups, in the case of national banks, by cities) or against those of other banks (in the case of the California members) to be positively correlated. If one is high (low), the other is high (low). Moreover, if one increases (decreases) so also does the other. Then, too, their regressive tendencies are alike, those which are high, as judged by absolute amounts or by differences from type, tending subsequently to fall, and those which are low, determined in the same manner, tending subsequently to rise. Similarity of position and likeness in regression must be considered as the ratios interplay upon each other in producing a net return. To a discussion of this topic the remaining pages of this chapter are devoted.

The correlation between percentage differences from type and percentage changes from year to year for ratios of gross earnings, of total expense, and of net earnings is treated in detail, in earlier chapters. In chapter vii, emphasis is placed upon ratios of gross earnings as the independent and those of total expense and of net earnings as dependent variables; in chapter viii, upon total expense as the independent, and net earnings as the dependent series. It will be of interest to observe the close relationship between these series, if, for the different bodies of bank data, the actual ratios are considered. Convenient summaries are found in Tables 69 and 70, and in the corresponding Charts, 80 and 81.

Observe from Table 69 that (1) the higher (lower) the gross earnings, the higher (lower) the total expense ratios, and vice versa; (2) with variable ratios of total expense, the higher (lower) the gross earnings ratios the higher (lower) are the residual net earnings ratios; and (3) with variable ratios of gross earnings, and successively higher (lower) ratios of total expense, the order of sequence (from low to high and vice versa) in the net earnings ratios is irregular. That is, low total expense ratios do not unmistakably tend to give high ratios of net earnings. Nor do high ratios of total expense always produce low net earnings ratios. The results depend upon the response of ratios of gross earnings to those of total expense. On the other hand, there is but a single break in the sequence of successively higher ratios of net earnings corresponding to successively higher ratios of gross earnings, despite the fact that ratios of gross earnings and of total expense are positively associated. If one is high (low), the other is high (low)—a fact plainly evident from the alignment of the paired ratios.

The details of Table 69 are graphically illustrated in Chart 80 (p. 318), which, among other things, shows: (1) That losses—negative net earnings—are not experienced by national banks (city groups). (2) That with increasing amounts of gross earnings go increasing amounts of total expense—see the inclination of line "A." (3) That increasing amounts of total expense are associated with increasing amounts of gross earnings—see the

TABLE 69

CORRELATION BETWEEN RATIOS OF GROSS EARNINGS AND RATIOS OF TOTAL EXPENSE, AS PERCENTAGES OF EARNING ASSETS, IN NATIONAL BANKS, BY CITIES, IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927, COMBINED

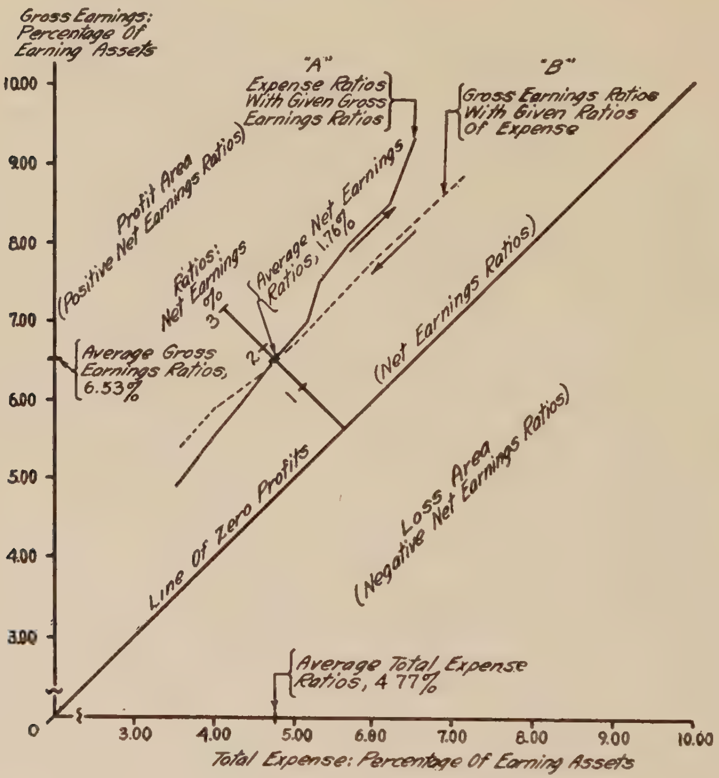
Ratios: Gross Earnings to Earning Assets (*Percentage Groups*)	Ratios: Total Expense to Earning Assets (*Percentage Groups*)								Number of City Bank-Year Ratios	Average Ratios		
	Under 3.75	3.75 – 4.25	4.25 – 4.75	4.75 – 5.25	5.25 – 5.75	5.75 – 6.25	6.25 – 6.75	6.75 and Over		Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets
8.75 and over	..	..	..	..	..	1	4	1	6	9.30	6.55	2.75
8.25–8.75	..	..	..	1	1	4	1	3	10	8.46	6.22	2.24
7.75–8.25	..	..	1	3	9	7	4	..	24	7.98	5.72	2.26
7.25–7.75	..	2	1	10	9	5	3	..	30	7.46	5.35	2.11
6.75–7.25	..	..	[sf] 7	36	16	5	2	..	66	6.97	5.19	1.78
6.25–6.75	1	[o] 11	[sf, la, o] 38	[sf, la] 38	8	1	..	..	97	6.47	4.73	1.74
5.75–6.25	6	[sf, la, o] 31	[sf, la, o] 28	21	..	..	..	..	86	5.99	4.37	1.62
5.25–5.75	8	27	13	..	1	..	..	..	49	5.55	4.03	1.52
Under 5.25	[o, sf] 13	3	..	..	..	..	..	..	16	4.90	3.54	1.36
Number of City Bank-Year Ratios	28	74	88	109	44	23	14	4	384 384	....	....	....
Average Ratios: Total Expense to Earning Assets	3.54	4.01	4.49	4.98	5.47	5.96	6.43	7.14	....	....	4.77 4.77	....
Average Ratios: Gross Earnings to Earning Assets	5.32	5.88	6.23	6.70	7.23	7.74	8.15	8.83	....	6.53 6.53	....	....
Average Ratios: Net Earnings to Earning Assets	1.78	1.87	1.74	1.72	1.76	1.78	1.72	1.69	....	....	....	1.76 1.76

[sf] San Francisco
[o] Oakland
[la] Los Angeles

inclination of line "B." (4) That amounts of expense with given amounts of gross earnings—line "A"—tend to increase more slowly than do amounts of gross earnings with given amounts of total expense—line "B"—the result being that net earnings ratios

CHART 80

THE RELATION OF RATIOS OF NET EARNINGS TO EARNING ASSETS TO VARIABLE RATIOS OF GROSS EARNINGS AND OF TOTAL EXPENSE TO EARNING ASSETS IN NATIONAL BANKS, BY CITIES, 1922–1927



tend to be higher in the first than in the second case. This fact is indicated on the chart by the relative distances of the diagonals "A" and "B," respectively, from the "Line of Zero Profits (Net Earnings Ratios)." (5) That with successively higher amounts of gross earnings, total expenses are more than compensated for, the result being that net earnings ratios become successively larger—a fact shown by the divergence of line "A" from the "Line of Zero Profits." (6) That with successively higher amounts of total expense, gross earnings barely compensate for the increase, the result being essentially uniform net earnings ratios—a fact indicated on the chart by the essentially uniform inclinations of line "B" and the "Line of Zero Profits."

The experiences of the national banks, therefore, may be recapitulated briefly as follows:

1. Those which have high (low) gross earnings have high (low) total expense ratios;
2. High (low) ratios of net earnings, despite those of total expense, tend to accompany high (low) ratios of gross earnings; and
3. High (low) ratios of net earnings are not guaranteed by low (high) ratios of total expense.

But the data for these banks are totals, by groups, for cities. Are similar relations found for member banks in California treated individually? Table 70 (p. 320) and Chart 81 (p. 321) give certain facts which are pertinent to this question. This table shows the paired yearly ratios of gross earnings and of total expense for all California member banks reporting during the years 1925 to 1927. From the alignment of the frequencies—bank-year ratios—it is apparent that on the whole when gross earnings ratios are relatively large (small), those of total expense in the same banks are relatively large (small), and vice versa. Observe, however, that the correlation between the two series is less marked than is that for similar series for national banks, Table 69. Despite the wider dispersion of the ratios—both absolutely and relatively—it tends to be the case that (1) the higher (lower) the ratios of gross earnings, irrespective of those of total expense, the higher (lower) the ratios of net earnings; and (2) the higher (lower) the ratios of total expense—despite the fact that these ratios and those of gross earnings are positively correlated—the lower (higher) the ratios of net earnings. The sequence of successively higher ratios of net earnings with successively lower ratios of total expense is particularly regular, a condition different from that found for national banks by cities (Table 69). The sequence of successively higher ratios of net earnings with larger and larger gross earnings ratios is less perfect. In this connection, the details of Chart 81 are of interest. Among other things, they graphically show (1) the average total expense ratios corresponding to given ratios of gross earnings, line "A"; (2) the average gross earnings ratios for given ratios of total expense, line "B"; and (3) the resultant net earnings ratios under these conditions.

The "Line of Zero Profits" on Charts 80 and 81 is drawn in such a position that the ratios of total expense and of gross earnings are equal. The space above this line and to the left is the area of profits, that is, positive net earnings; that below and to the right is the area of losses, that is, negative net earnings. Observe (1) that for given ratios of gross earnings, the corresponding average ratios of total expense are always smaller, the effect of this being that line "A" is to the left of the no-profits line; (2) that for given ratios of expense, the average gross earnings ratios are always larger, the result being that line "B" is in the

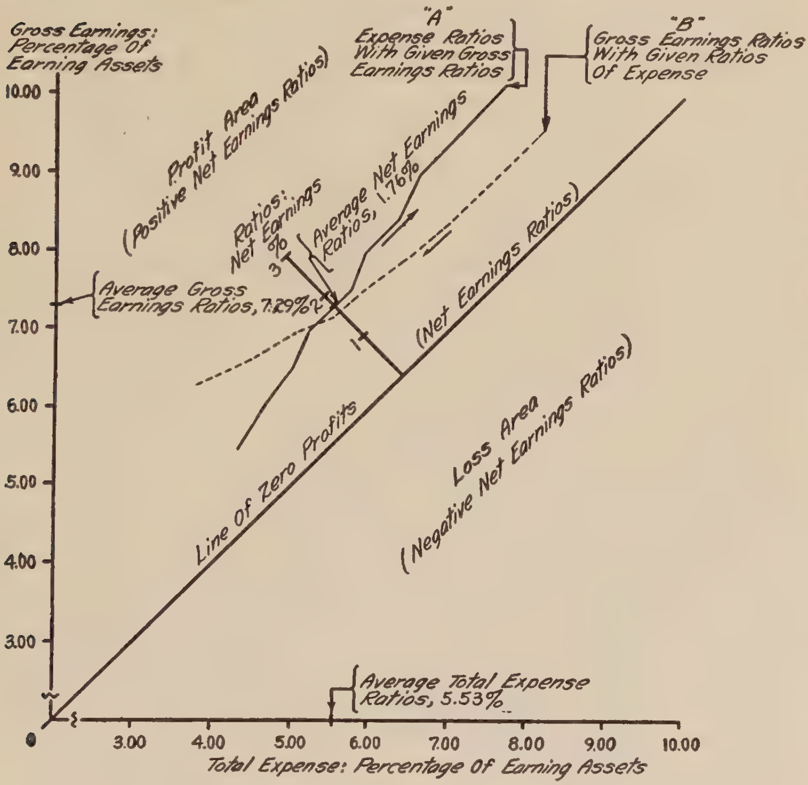
TABLE 70

CORRELATION BETWEEN RATIOS OF GROSS EARNINGS AND RATIOS OF TOTAL EXPENSE, AS PERCENTAGES OF EARNING ASSETS, FOR CALIFORNIA MEMBER BANKS, 1925–1927, COMBINED

Ratios: Gross Earnings to Earning Assets (*Percentage Groups*)	Ratios: Total Expense to Earning Assets (*Percentage Groups*)								Number of Bank-Year Ratios	Average Ratios		
	Under 4.25	4.25 – 4.75	4.75 – 5.25	5.25 – 5.75	5.75 – 6.25	6.25 – 6.75	6.75 – 7.25	7.25 and Over		Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets
9.25 and over	..	1	2	1	2	3	6	22	37	10.13	7.72	2.41
8.75–9.25	..	1	3	1	5	10	4	9	33	8.97	6.61	2.36
8.25–8.75	..	1	6	7	13	14	14	8	63	8.43	6.36	2.07
7.75–8.25	2	3	13	22	23	20	8	4	95	7.97	5.91	2.06
7.25–7.75	4	7	14	43	35	24	9	..	136	7.47	5.72	1.75
6.75–7.25	11	36	46	46	32	8	1	..	180	6.97	5.21	1.76
6.25–6.75	19	34	28	37	16	4	..	..	138	6.50	5.00	1.50
5.75–6.25	12	21	24	10	1	..	..	..	68	6.05	4.68	1.37
Under 5.75	15	10	7	1	..	..	..	..	33	5.43	4.33	1.10
Number of Bank-Year Ratios	63	114	143	168	127	83	42	43	783 783	....	....	....
Average Ratios: Total Expense to Earning Assets	3.80	4.51	5.02	5.50	5.97	6.46	6.96	8.19	....	....	5.53 5.53	....
Average Ratios: Gross Earnings to Earning Assets	6.29	6.65	6.94	7.15	7.52	7.91	8.84	9.52	....	7.29 7.29	....	....
Average Ratios: Net Earnings to Earning Assets	2.49	2.14	1.92	1.65	1.55	1.45	1.88	1.33	....	....	....	1.76 1.76

CHART 81

THE RELATION OF NET EARNINGS TO EARNING ASSETS TO VARIABLE RATIOS OF GROSS EARNINGS AND OF TOTAL EXPENSE TO EARNING ASSETS FOR CALIFORNIA MEMBER BANKS, 1925–1927



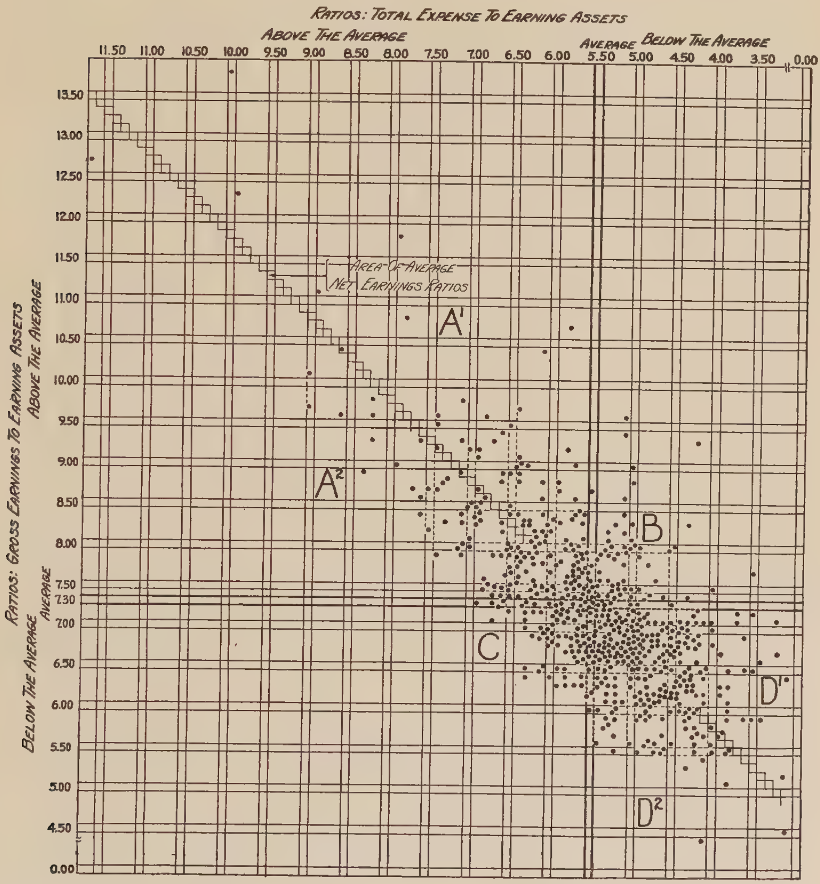
profit area; and (3) that lines "A" and "B" are not parallel to each other nor with the "Line of Zero Profits," the latter fact, reading in the direction of the arrow (→) on line "A," indicating that with successively larger ratios of gross earnings, ratios of total expense increase by less amounts, with the consequence that ratios of net earnings become successively larger. On the other hand, with successively smaller amounts of expense, line "B," reading in the direction of the arrow (←), amounts of gross earnings decrease less fast than do those of expense, the results being that ratios of net earnings become successively larger. Observe, however, from Chart 81, (1) that for banks with expenses in excess of, say 6 to 7 per cent of earning assets, gross earnings are barely sufficient to keep net earnings ratios constant at approximately 1.33 per cent; (2) that when gross earnings ratios are 6 per cent and less, total expense ratios are relatively so high as to keep ratios of net earnings in the neighborhood of 1.25 per cent; and (3) that gross earnings ratios must be as high as or higher than 7.75 per cent in order for net earnings to exceed the average, and that total expense ratios must be as low as or lower than 4.75 per cent for the same condition to obtain. The highest net earnings ratios are found with the highest gross earnings and with the lowest ratios of total expense. These conditions, however, are exceptional. For the bulk of the banks, ratios of net earnings to earning assets are stable at 1.75 per cent when gross earnings ratios are in the neighborhood of, say, 7.50 per cent, and total expense ratios at approximately 5.75 per cent.

The foregoing generalizations are based upon averages—variable ratios of total expense for given ratios of gross earnings and variable ratios of gross earnings for given ratios of total expense being averaged to give a single ratio of net earnings. Will different conclusions result if frequency distributions of the correlated variables are studied? Such a method of presenting the ratios for national banks, by cities, and the California member banks reporting the necessary data for the three years 1925–1927, is shown in Charts 82 and 83, respectively. These merit close inspection.

Chart 82, for national banks by cities, and Chart 83 (p. 325), for California member banks, show the distributions of the gross earnings and of the total expense ratios for the years 1922 to 1927, and 1925 to 1927, respectively. The scale to the left of the respective charts is that for the ratios of gross earnings, and that at the top for ratios of total expense. The heavy horizontal parallel lines on the two charts are drawn at the respective gross earnings averages, the corresponding vertical parallel lines at the respective total expense averages. The diagonal zigzag lines are so placed that they indicate average ratios of net earnings. The areas to the right and above these lines represent ratios of net earnings greater, and those below and to the left of the lines, net

CHART 82

Distribution of Ratios of Net Earnings to Earning Assets, with Reference to Variable Ratios of Gross Earnings and of Total Expense to Earning Assets, for National Banks, by Cities, 1922–1927

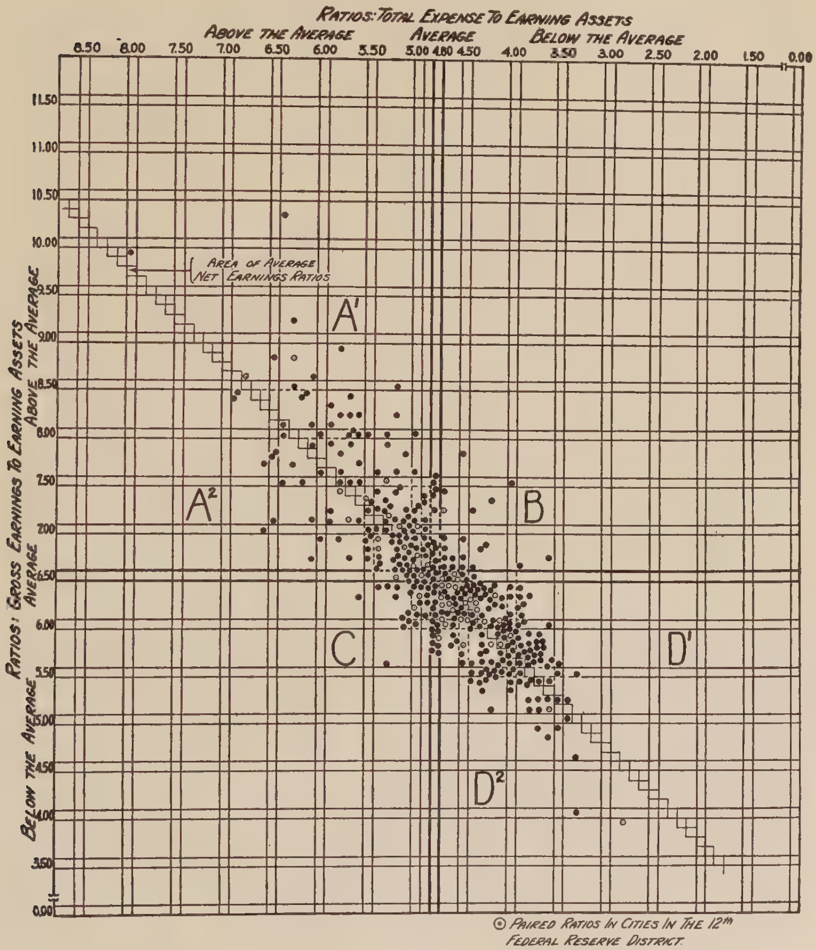


earnings ratios less than the average. Each of the charts is, therefore, divided into four quarters, which are designated by the following symbols: A^1, A^2; B; C; D^1 and D^2. It is apparent from the two charts that: (1) The greater (the less) the ratios of gross earnings (total expense), the greater (the less) the ratios of total expense (gross earnings). (2) Banks with relatively high gross earnings ratios—those above the averages—do not always have relatively high net earnings ratios. Observe in the two charts the number and distribution of the dots in areas A^2. Contrariwise, those with relatively low expense ratios—those below the averages—are not by virtue of this fact guaranteed relatively high ratios of net earnings. Notice on the two charts the number and distribution of dots in areas D^3. (3) Net earnings ratios are higher when gross earnings ratios are relatively high than when ratios of total expense are low, a fact indicated on the respective charts by the position of the dots in areas A^1 and D^1, relative to the zigzag diagonals. (4) Relatively low net earnings ratios are more common when expense ratios are low than when gross earnings ratios are high. Note the number of dots in areas D^2 and A^2. (5) Net earnings ratios which are relatively high are less uniform in amount than are those which are relatively low. Note in the two charts the distributions of the dots in areas A^1, B, and D^1, as compared with those in areas A^2, C, and D^2. (6) When ratios of gross earnings are low, that is, below the average, total expense ratios are generally low, below the average, the resulting ratios of net earnings tending more frequently to be low than to be high relative to their averages. Note on the two charts the number and distribution of the dots in areas C and D^2, as compared with those in areas D^1. On the contrary, (7) when gross earnings ratios are high, that is, above the average, ratios of total expense are generally above the average too, the consequent net earnings ratios tending more frequently to be above than below the average. Observe on the two charts the number and distribution of the dots in areas A^1 and B, in comparison with those in areas A^2. (8) When total expense and gross earnings ratios are both low, that is, below their respective averages, net earnings ratios on both charts are essentially equally distributed above and below the average net earnings lines. On the contrary, when the expense and the gross earnings ratios are both high, the preponderance of high net earnings ratios is relatively greater for the national banks, Chart 82, than for the California members, Chart 83. The difference, however, is small, both charts showing much the same condition.

In general, the frequency distributions of the gross earnings and of the total expense ratios on Charts 82 and 83, from which those of net earnings may be read, confirm the conclusions drawn

CHART 83

Distribution of Ratios of Net Earnings to Earning Assets, with Reference to Variable Ratios of Gross Earnings and of Total Expense to Earning Assets, for California Member Banks, 1925–1927



from Tables 69 and 70 and from the corresponding Charts, 80 and 81. In barest outline, they are as follows: (1) When ratios of gross earnings to earning assets are high (low), those of total expense for the same institutions are generally high (low), and vice versa. (2) High ratios of net earnings are relatively more frequently associated with high ratios of gross earnings than they are with low ratios of total expense.

It should be remembered that the average lines on Charts 82, national banks, and 83, California member banks, are those for the entire number of institutions for the years to which the data apply. In Table 68, Part A, for national banks, on the other hand, the averages in comparison with which gross earnings, total expense, and net earnings ratios are located, above or below, are those for the six years for the respective cities. In Part B of this table, the averages by which the positions of the ratios are defined are the yearly amounts for all banks. The only difference in the methods of securing the averages in Charts 82 and 83 is in the years covered. Conclusions based upon the similarity of the positions of the gross earnings and of total expense ratios, when the positions are defined in terms of all-bank averages, as in Charts 82 and 83, have less significance in evaluating the relative effect of gross earnings and of total expense ratios upon those of net earnings than do conclusions based upon the positions of the ratios, bank by bank, relative to their own levels. Accordingly, it is advisable again to study them in this relation and, at the same time, to take account of their respective regressive tendencies.

It will be recalled that, like many other ratios of bank operation, those of gross earnings, of total expense, and of net earnings regress to type. It is found to be generally true, according to several forms of analysis, that if the respective ratios are high at a given time the direction of change subsequently is downward. Conversely, if they are low at a given time, they tend subsequently to rise, the amounts of the fall or of the rise varying directly with the degrees of variation from type. With these facts in mind, the ratios for national banks by cities and those for California member banks individually may be studied in their interrelations one upon the other according to both position and change, and the consequent effect noticed which these have on ratios of net earnings.

It will be helpful to state again the manner in which gross earnings, total expense, and net earnings ratios are associated:

1. If gross earnings ratios are high (low), those of total expense are high (low), and vice versa.
2. If gross earnings ratios are high (low), those of net earnings are high (low), and vice versa.

3. If total expense ratios are low (high), those of net earnings are high (low), and vice versa.[1]

But if the respective ratios are high, they tend to fall; if they are low, they tend to rise. Accordingly, other things being equal, if gross earnings ratios, being high, tend to fall, net earnings ratios will tend to fall. But the other things are not equal, because when gross earnings ratios are high, so too are those of total expense, and, being high, they also tend to fall. Accordingly, their relative decreases, as well as their relative positions in the scale of "highs" and "lows," are important. This latter condition follows from the fact that the regressive tendencies in both ratios are functions of their positions.

Moreover, other things being equal, if gross earnings ratios, being low, tend to rise, net earnings ratios will also rise. But the other things are not equal, because total expense ratios by position are positively correlated with those of gross earnings, and consequently, being low, they too will tend to rise. Accordingly, the effect of such changes on ratios of net earnings is in doubt until the relative amounts of change are determined. But the changes in the respective ratios, as has been noted, are dependent upon their positions. Both position and change, therefore, must be considered simultaneously. This is done later. For the present, amounts of change alone are considered.

Chart 84 (p. 328), for national banks, and Chart 85 (p. 330), for California members, show by means of dots the paired amounts of change in ratios of gross earnings and of total expense for groups of banks or for individual institutions, as the case may be. The two charts are drawn on the same basis, which briefly is as follows: (1) The vertical scales provide for increases and for decreases in the ratios of gross earnings, and the horizontal ones for increases and for decreases in ratios of total expense. (2) Relative to these scales, the amounts of increase or of decrease in the two ratios, when paired for cities, in the case of the national banks, and for individual institutions for California members, are located, solid dots being used for all cases except those for national banks in cities located in the Twelfth Federal Reserve

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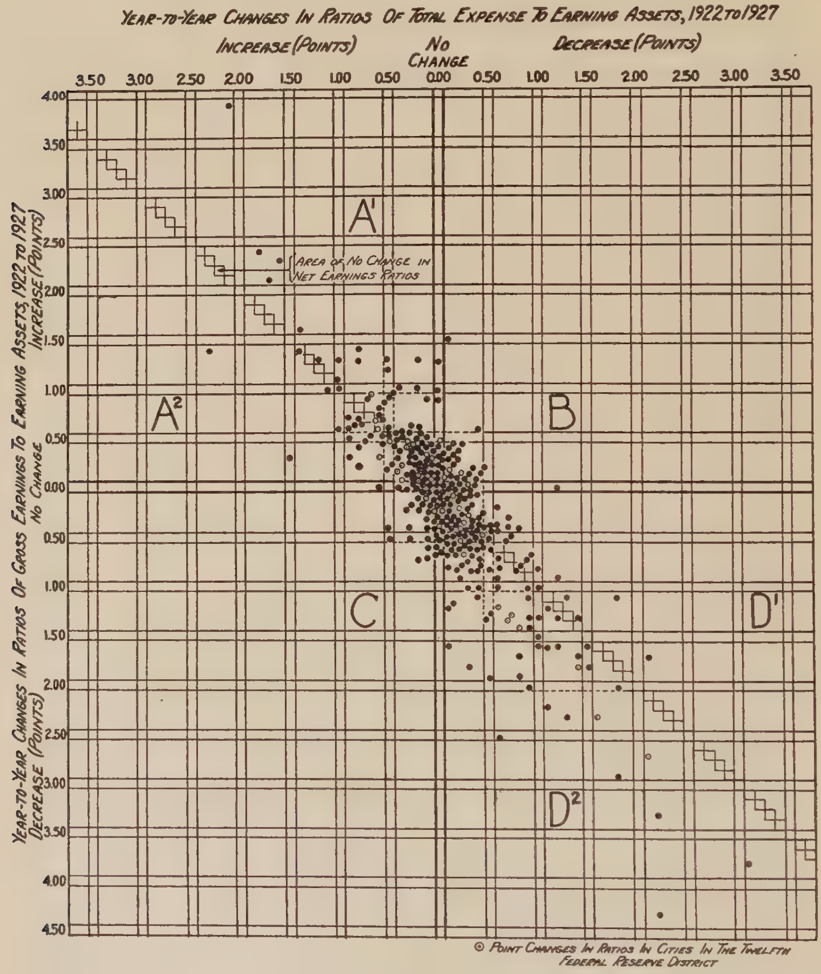
[1] For national banks by cities, the association is moderately positive when percentage differences from type are paired. By actual amounts, the ratios are inversely correlated as they are for California member banks.

CHART 84

Year-to-Year Changes in Ratios of Net Earnings to Earning Assets, with Reference to Corresponding Changes in Ratios of Gross Earnings and of Total Expense to Earning Assets, for National Banks, by Cities, 1922–1927

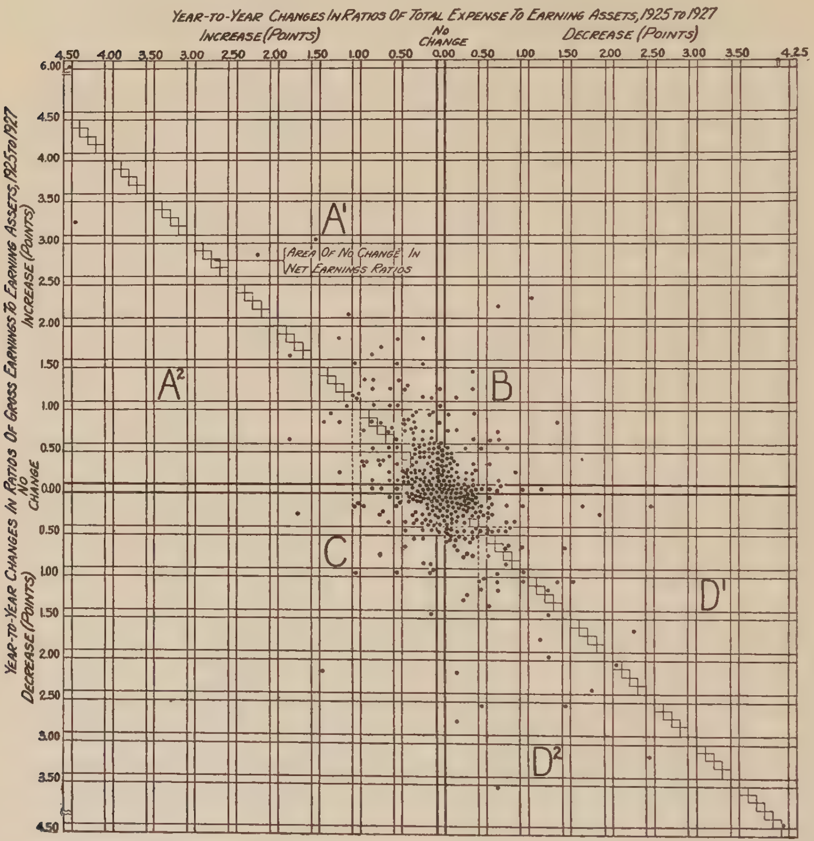


District. (3) On the gross earnings or vertical scales, horizontal parallel lines are drawn representing zero changes and dividing the scales into two parts, those above indicating increases and those below decreases. (4) On the total expense, or horizontal scale, vertical parallel lines representing no changes divide the scales into two parts, those to the left indicating increases and those to the right decreases. The respective parallel lines, therefore, divide the surfaces of the charts into four quarters. The upper left-hand ones represent increases in the ratios of both series; the upper right-hand ones, increases in gross earnings and decreases in total expense ratios; the lower right-hand ones, decreases in both series; and the lower left-hand ones, decreases in gross earnings and increases in total expense ratios. (5) The diagonal lines running from the upper left- to the lower right-hand corners indicate areas of "No Change in Net Earnings Ratios." The areas to the right and above these lines show increases in net earnings ratios; those below and to the left, decreases in these ratios. Comparative analysis of the charts is facilitated by the symbols used to designate the respective quarters and their parts.

Observe in both charts that (1) when ratios of gross earnings (total expense) increase (decrease), so also generally do those of total expense (gross earnings). (2) When ratios of both gross earnings and of total expense increase, the changes in gross earnings generally, although not exclusively, exceed those in expense, the consequence being that ratios of net earnings generally but not exclusively increase. Note the number and distribution of the dots in areas A^1, as contrasted with those in areas A^2. (3) When ratios of both total expense and gross earnings decrease, the decreases in total expense ratios are generally, although not in every case, smaller than are those in gross earnings ratios, the consequence being that net earnings ratios predominantly decrease. Observe the distribution and number of dots in areas D^2 and D^1. (4) Decreases in gross earnings ratios generally result in decreases in ratios of net earnings. Compare the number of dots in areas C and D^2 with those in areas D^1. (5) Increases in ratios of total expense predominantly result in decreases in net earnings. Compare the number of dots in areas A^2 and C with those in areas A^1. (6) Increases in ratios of net earnings—note the areas above the diagonal zigzag lines—relatively more frequently occur with increases in ratios of gross earnings and of total expense—areas A^1—than they do with decreases in ratios of gross earnings and of total expense—areas D^1. (7) On the other hand, decreases in net earnings ratios—observe the areas below the diagonal zigzag lines—relatively more frequently accompany

CHART 85

YEAR-TO-YEAR CHANGES IN RATIOS OF NET EARNINGS TO EARNING ASSETS, WITH REFERENCE TO CORRESPONDING CHANGES IN RATIOS OF GROSS EARNINGS AND OF TOTAL EXPENSE TO EARNING ASSETS, FOR CALIFORNIA MEMBER BANKS, 1925–1927



decreases in ratios of gross earnings and of total expense—areas D^2—than they do increases in ratios of gross earnings and of total expense—areas A^2. (8) When both gross earnings and total expense ratios increase, the general result is increasing ratios of net earnings. On the other hand, when both of these ratios decrease, ratios of net earnings predominantly decrease. Moreover, (9) increasing ratios of both gross earnings and of total expense are relatively more effective in increasing net earnings ratios, than are decreases in both gross earnings and total expense ratios in decreasing them. By positions on the respective charts, this means that the dots in area A^1 predominate over those in area A^2 more than do those in area D^2 over area D^1.

Charts 84 and 85 indicate the relative *frequencies* of change in the correlative series, but they do not permit of numerical summaries of the results of such changes on net earnings ratios. Neither do they take account of the positions of the ratios relative to their averages. Such positions are important, because they tend to determine both the directions and the amounts of change from year to year in the respective series and, consequently, the directions of change in ratios of net earnings. Accordingly, in what immediately follows, allowance is made for this serious omission. The problem, therefore, is to determine the relative effect of both position and change in gross earnings and in total expense ratios on changes in ratios of net earnings. This is done below for the bank series under consideration, and in certain respects in comparison with a similar analysis of member banks in the Boston Federal Reserve District.

Table 71 (p. 332) for national banks for the years 1922 to 1927, and for California member banks for the years 1925 to 1927, shows average ratios of net earnings to earning assets when ratios of gross earnings and of total expense for the respective groups of institutions are differently placed relative to their averages.

Observe in the two bodies of data that when gross earnings ratios are above their averages, irrespective of the amounts of the ratios of total expense, the net earnings ratios are higher than they are when ratios of total expense are below their averages irrespective of the amounts of gross earnings. That is, banks with high gross earnings have higher net earnings than do those with low total expense ratios. Moreover, for national banks, net earnings ratios are noticeably higher when ratios of gross earnings and of total expense are both high than they are when they are both low. For California members there is little difference in the ratios of net earnings under the two circumstances, the ratios being slightly higher when gross earnings and total expense are both low than when they are both high. Similar relations obtain for the California members and for the Boston District members for the year 1925, the only period for which data for the two

TABLE 71

Frequencies and Average Ratios of Net Earnings to Earning Assets for National Banks, by Cities, 1922–1927, and for California Member Banks, 1925–1927, by Relative Positions of the Ratios of Gross Earnings and of Total Expense to Earning Assets for the Respective Classes of Banks*

Ratios: Gross Earnings to Earning Assets	National Banks, by Cities			California Member Banks		
	Ratios: Total Expense to Earning Assets					
Position	Above the Average	Below the Average	Above or below the Average	Above the Average	Below the Average	Above or below the Average
Above the Average	1.90 156	2.15 36	1.95 192	1.78 205	2.74 81	2.06 286
Below the Average	1.45 33	1.61 159	1.58 192	0.98 73	1.80 250	1.61 323
Above or below the Average	1.82 189	1.71 195	1.76 384	1.57 278	2.03 331	1.82 609

* "Positions" of the ratios in the respective series for national banks are determined by the averages of the respective city ratios for the years, 1922–1927, combined; for those for the California members, by the yearly averages of the respective volume groups, 1925–1927.

groups of institutions are available. The actual ratios are given in Table 72.

TABLE 72

Frequencies and Average Ratios of Net Earnings to Earning Assets for California Member Banks, and for All Member Banks in Federal Reserve District I (Boston), 1925, by Relative Positions of the Ratios of Gross Earnings and of Total Expense to Earning Assets for the Respective Classes of Banks*

Ratios: Gross Earnings to Earning Assets	California Member Banks			Member Banks, District I		
	Ratios: Total Expense to Earning Assets					
Position	Above the Average	Below the Average	Above or below the Average	Above the Average	Below the Average	Above or below the Average
Above the Average	1.75 65	2.81 19	1.99 84	1.84 126	2.81 59	2.15 185
Below the Average	0.94 25	1.81 94	1.63 119	1.22 73	1.97 152	1.73 225
Above or below the Average	1.52 90	1.98 113	1.78 203	1.61 199	2.20 211	1.92 410

* "Positions" of the ratios in the respective series for the two groups of banks are taken from the yearly averages of the respective volume groups. The data for the Boston District members are taken from H. Secrist, *Banking Standards under the Federal Reserve System,* Table 191, p. 326.

But the positions of the ratios of gross earnings and of total expense in a given year in part determine their positions subsequently, it being the characteristic and prevailing tendency for these ratios, if they are relatively high, to fall, and, if they are relatively low, to rise. Changes of this type obviously have an effect on ratios of net earnings. For the national banks and for the California members, the effect in terms of net direction during the years 1922 to 1927 and 1925 to 1927, respectively, may be observed in the following summary:

POSITIONS OF RATIOS IN THE TWO SERIES	REGRESSIVE TENDENCIES	NET CHANGE IN RATIOS: NET EARNINGS TO EARNING ASSETS		DOMINANT FACTOR RESPONSIBLE FOR THE RESULT	
		National Banks by Cities	California Members	National Banks by Cities	California Members
Both Above	To decrease	Decrease	Increase	Gross Earnings	Total Expense
Both Below	To increase	Increase	Increase	Gross Earnings	Gross Earnings

If the positions of the two ratios are high, that is, above their respective averages, the regressive tendencies will be downward. If the ratios change by the same amounts, net earnings ratios are unaffected. If, on the other hand, gross earnings ratios fall more than do those of total expense, net earnings ratios will fall; and if gross earnings ratios fall less, net earnings ratios will rise. Moreover, if both gross earnings and total expense ratios are relatively low, the tendency is for them to increase. If the amounts of change are the same, net earnings ratios remain constant. If total expense ratios increase more than do those of gross earnings, net earnings ratios will decrease; and if total expense ratios increase less than do gross earnings, net earnings will increase. What is the net result for the two groups of banks for the years in question? According to the summary above, when the two ratios are both relatively high, the net direction of change in net earnings is different, gross earnings ratios, for the national banks, decreasing more than do those of total expense, and total expense ratios for the California banks decreasing more than do those of gross earnings. On the other hand, when the ratios are both low, the increases in response to the regressive tendencies cause net earnings ratios in both groups of banks to increase, the changes in ratios of gross earnings being responsible for this fact.

But increases and decreases are not wholly dependent upon the position of the ratios. Some which are low fall, and some which are high rise, although neither condition is characteristic nor prevailing. Accordingly, what effect on net earnings is occasioned (1) by increases, and (2) by decreases in both gross earnings and in total expense ratios? The results are summarized as follows:

Nature of Change in Both Series	Net Change in Ratios: Net Earnings to Earning Assets		Dominant Factor Responsible for the Result	
	National Banks by Cities	California Members	National Banks by Cities	California Members
Increasing	Increase	Increase	Gross Earnings	Gross Earnings
Decreasing.....	Decrease	Decrease	Gross Earnings	Gross Earnings

Observe that when both gross earnings and total expense ratios increase, the net change in net earnings ratios is an increase; and that when they both decrease, the net change is a decrease. In these cases, greater increases in gross earnings than in total expense account for the net increase, and greater decreases in gross earnings than in total expense account for the net decrease in net earnings. The factors responsible for these net results are the gross earnings ratios. They oscillate through a wider range of change, in periods of expanding business, increasing more, and in a period of contracting business, decreasing more than do ratios of total expense. Management hesitates to increase expenses. Other things being equal, to do so decreases net earnings. But the other things are not equal, because, as a rule, under conditions of increasing gross earnings and total expense ratios, ratios of net earnings tend to increase. On the other hand, management desires to decrease total expense ratios, because, other things being equal, such decreases result in increases of ratios of net earnings. But the other things are not equal, inasmuch as decreasing ratios of both total expense and of gross earnings have as their net effect decreases in ratios of net earnings.

Neither the positions nor the changes alone in ratios of gross earnings and of total expense fully account for changes in ratios of net earnings. Both must be considered together. Let us select the combination of conditions, as respects both positions and changes, which, in the light of the regressive tendencies of ratios of gross earnings and of total expense, make (1) for increases and (2) for decreases in ratios of net earnings and, for the two bodies of bank data, determine what actually occurs. Selection of the first class with the consequent results is shown in the following summary:

CONDITIONS MAKING FOR INCREASES IN NET EARNINGS RATIOS

RATIOS CHANGING FROM YEAR TO YEAR FROM POSITIONS* (RELATIVE TO THEIR AVERAGES)	RATIOS AND POSITIONS* (RELATIVE TO THEIR AVERAGES)	NET CHANGE IN RATIOS: NET EARNINGS TO EARNING ASSETS	
		National Banks by Cities	California Members
Gross Earnings, Increasing, Above	Total Expense, Above	Increase	Increase
Total Expense, Decreasing, Above	Gross Earnings, Above	Decrease	Increase
Gross Earnings, Increasing, Above	Total Expense, Below	Decrease	Decrease
Total Expense, Decreasing, Above	Gross Earnings, Below	Increase	Increase
Gross Earnings, Increasing, Below	Total Expense, Above	Increase	Increase
Total Expense, Decreasing, Below	Gross Earnings, Above	Decrease	Decrease
Gross Earnings, Increasing, Below	Total Expense, Below	Increase	Increase
Total Expense, Decreasing, Below	Gross Earnings, Below	Increase	Increase

* "Positions" for the respective ratios for national banks are determined relative to the averages of the respective cities for the years 1922–1927; those for the California members, relative to the yearly averages of the respective volume groups.

Let it be remembered that, under these conditions, the normal expectation is that ratios of net earnings will increase. Such are the results in all but two of the combinations for the California members, and in all but three of those of the national banks by cities. The three exceptions in the latter and the two in the former group require a word of explanation. It will be recalled, first, that, for the national banks, "positions" of the ratios are determined relative to their averages for the respective cities for the years 1922 to 1927. That is, for a given year the ratios are compared with their own six-year average level, the correlative changes, therefore, being those which occur within given institutions (groups), rather than, as is the case with the California members, being those occurring in one bank as compared to those in another. Second, with the "positions" for national banks defined in this manner, the regressive tendencies observed are more attributable to management than are those when banks, as for the California members, are compared with each other.

Accordingly, from the above summary, observe that the exceptions to the rule represent the following conditions:

1. Total expense ratios are decreasing from positions above their averages and, at the same time, gross earnings ratios are above their average levels. Under these conditions, the decreases in total expense will normally be large—the ratios are high. Similarly, because the gross earnings ratios are high, they will tend to fall rapidly. The fact is that the decreases in gross earnings are greater than are those in total expense ratios, the net effect on net earnings being a decrease.

2. Gross earnings ratios are increasing when they are relatively high and, at the same time, total expense ratios are relatively low. The increases in ratios of gross earnings placed in this position will be relatively small, and the increases in total expense ratios relatively large. Accordingly, the regressive tendencies in the latter—increases—more than compensate for the increases in the former, the result being a net decrease in ratios of net earnings.

3. Total expense ratios are decreasing from positions which are relatively low, and gross earnings ratios are relatively high. The first condition is exceptional, and the decreases are likely to be small. The latter ratios being high, decreases will be relatively large, the combined effect of which is to cause ratios of net earnings to decrease.

It should be observed in each of these exceptions to the rule that the regressive tendencies play an important part, the nature of the regression being implicit in the positions of the ratios—the directions of change not being indicated—and serving in part at least to account for them.

The conditions, with respect to the positions and changes in ratios of gross earnings and of total expense which normally make for decreases in net earnings ratios, together with the actual net changes which occur, are given in the summary at the top of page 337.

Observe that normal expectations are realized except in one case, so far as the California member banks are concerned, but that there are three exceptions for the national banks by cities. The observations made above, respecting the conditions in national institutions which define the relative positions of the ratios and which offer opportunities for management to determine the

Conditions Making for Decreases in Net Earnings Ratios

Ratios Changing from Year to Year from Positions* (Relative to Their Averages)	Ratios and Positions* (Relative to Their Averages)	Net Change in Ratios: Net Earnings to Earning Assets	
		National Banks by Cities	California Members
Total Expense, Increasing, Above	Gross Earnings, Above	Decrease	Decrease
Gross Earnings, Decreasing, Above	Total Expense, Above	Decrease	Decrease
Total Expense, Increasing, Above	Gross Earnings, Below	Increase	Increase
Gross Earnings, Decreasing, Above	Total Expense, Below	Decrease	Decrease
Total Expense, Increasing, Below	Gross Earnings, Above	Decrease	Decrease
Gross Earnings, Decreasing, Below	Total Expense, Above	Increase	Decrease
Total Expense, Increasing, Below	Gross Earnings, Below	Increase	Decrease
Gross Earnings, Decreasing, Below	Total Expense, Below	Decrease	Decrease

* See note on p. 335.

amounts of regressive change, are in point in an explanation of these exceptions. These represent the following conditions:

1. Total expense ratios are above their averages and increasing, and gross earnings ratios are below their respective six-year levels. For total expense ratios to increase when they are high is abnormal, and the increases involved in this case are undoubtedly small. On the other hand, the normal tendency for ratios which are relatively low is for them to increase. The increase in gross earnings ratios in this case, accordingly, exceeds those for ratios of total expense, with the consequence that the net change in ratios of net earnings is an increase.

2. Gross earnings ratios are relatively low and are decreasing. This represents an abnormal condition, and the decreases are probably relatively small. Associated with these low ratios, tending to decrease, are relatively high total expense ratios, the normal tendency of which is to decrease. The fact that in this case the net change in ratios of net earnings is an increase merely means that the decreases in the ratios of total expense exceed those in the ratios of gross earnings.

3. Total expense ratios are increasing from positions which are relatively low. Such increases are normally large. Associated with these ratios which increase are ratios of gross earnings which are low, and which because of this fact will normally increase

from year to year. Inasmuch as both ratios are increasing, the fact that the result on net earnings is an increase means that in this case the increases in the gross earnings exceed those in the total expense ratios.

Observe that in each of the above cases ratios of gross earnings are relatively low. Despite the positions of total expense, and the types of changes in the correlative ratios, the regressive tendencies upward of these low ratios are sufficient to occasion a net increase in the ratios of net earnings. On the other hand, under the conditions normally making for increases in these ratios, wherever exceptions to the rule occur, ratios of gross earnings are relatively high. In this position they tend strongly to decrease. These decreases exceed those in the correlative ratios, total expense, whatever their positions and changes, the net result being a decrease in net earnings ratios.

In the two foregoing summaries the relative positions of the two ratios but the directions of change in only one are given, the others being implied from the regressive tendencies associated with such positions. In Table 73, the nature of the changes and of the positions of both ratios are specified, the resultant net directions of change in net earnings ratios indicated, and the dominant factor responsible for such change named.

It will be observed from Table 73, (1) that when both total expense and gross earnings ratios are increasing from year to year, despite the several positions relative to their respective averages, the net directions of change in ratios of net earnings are generally, although not exclusively, increases; (2) that when both of these ratios are decreasing from year to year, whatever may be their several positions relative to their respective averages, it is the general, although not the universal, rule that the net directions of change in ratios of net earnings are decreases. To the first generalization there are three exceptions for the national banks, by cities, and one for the California member banks; to the second, there is one exception for the first class of institutions and two for the second. Can these be explained? Toward an explanation, the following observations are pertinent:

1. The exceptions, when both ratios are increasing, have this fact in common: gross earnings ratios are relatively high. Those when both ratios are decreasing have gross earnings ratios relatively low.

TABLE 73

Dominant Factor in Producing Net Year-to-Year Changes in Ratios of Net Earnings to Earning Assets for National Banks, by Cities, and for California Member Banks

Nature of Year-to-Year Changes in Ratios of Gross Earnings and of Total Expense to Earning Assets*	Positions of Ratios Relative to Their Averages†		Net Year-to-Year Change in Ratios: Net Earnings to Earning Assets				Dominant Factors—Ratios to Earning Assets Gross Earnings=G.E.; Total Expense=T.E.			
	Gross Earnings to Earning Assets	Total Expense to Earning Assets	National Banks, by Cities, 1922–1927		California Member Banks, 1925–1927		National Banks, by Cities, 1922–1927		California Member Banks, 1925–1927	
Both Increasing	Above	Above		Decreasing	Increasing			T.E.	G.E.	
	Below	Below	Increasing		Increasing		G.E.		G.E.	
	Above	Below		Decreasing		Decreasing		T.E.		T.E.
	Below	Above	Increasing		Increasing		G.E.		G.E.	
	Above	Above or Below		Decreasing	Increasing			T.E.	G.E.	
	Below	Above or Below	Increasing		Increasing		G.E.		G.E.	
	Above or Below	Above	Increasing		Increasing		G.E.		G.E.	
	Above or Below	Below	Increasing		Increasing		G.E.		G.E.	
	Above or Below	Above or Below	Increasing		Increasing		G.E.		G.E.	
Both Decreasing	Above	Above		Decreasing		Decreasing	G.E.		G.E.	
	Below	Below		Decreasing	Increasing		G.E.			T.E.
	Above	Below		Decreasing		Decreasing	G.E.		G.E.	
	Below	Above	Increasing			Decreasing		T.E.	G.E.	
	Above	Above or Below		Decreasing		Decreasing	G.E.		G.E.	
	Below	Above or Below		Decreasing	Increasing		G.E.			T.E.
	Above or Below	Above		Decreasing		Decreasing	G.E.		G.E.	
	Above or Below	Below		Decreasing		Decreasing	G.E.		G.E.	
	Above or Below	Above or Below		Decreasing		Decreasing	G.E.		G.E.	

* For national banks, the year-to-year changes are for the years 1922–1927; for California member banks for the years 1925–1927.

† For national banks, the positions are relative to the respective city averages for the years 1922–1927, combined. For California member banks, the positions are relative to the yearly averages of the respective volume groups, 1925–1927.

2. When both ratios are increasing, and the rule that the net change in net earnings is an increase is violated, the total expense ratios are neither exclusively high nor low.

3. When both ratios are decreasing, and the rule that the net change in net earnings is a decrease is broken, the total expense ratios are neither exclusively above nor below their own average levels.

4. Ratios which are high and at the same time are increasing—gross earnings ratios in (1) above—make only slight advances. Similarly, those which are low and decreasing—gross earnings ratios in (1) above—experience only relatively small declines. Moreover, both conditions are relatively uncommon.

5. Total expense ratios which are low and increasing (found in one exceptional case when the general rule is for the net direction of net earnings to be an increase), and total expense ratios which are high and decreasing (found in one exceptional case when it is the marked tendency for the net direction of change in net earnings ratios to be a decrease) represent normal tendencies. These are sufficiently strong in the cases indicated to overcome the abnormal tendency for gross earnings (1) which are high to increase and (2) which are low to decrease.

6. When both gross earnings and total expense ratios are relatively high and increasing—exceptional conditions in and of themselves—the net tendency for ratios of net earnings to decrease arises because the changes in gross earnings are less than those in total expense ratios. On the other hand, when both ratios are low and decreasing—again exceptional conditions—the net tendency for net earnings ratios to increase arises because the decreases in expense are more than those in gross earnings ratios. In the first case, it is obviously more difficult to increase gross earnings ratios which are already high than to add to expenses which are in this relative condition. In the second case, there is no incentive to decrease ratios of gross earnings, whether high or low, and every inclination further to reduce expenses even if they are relatively low.

If the observations just presented seem reasonable, in partial explanation of those cases in which the dominant factors accounting for changes in net earnings ratios are ratios of total expense, then it may be concluded that the exceptions, as it were, prove the rule: viz., gross earnings ratios, as respects both their relative position and their year-to-year changes, are the dominant factor determining the year-to-year changes in ratios of net earnings.

As further evidence in support of this generalization, it is of interest to present comparative data (1) for national banks by cities, 1922 to 1927; (2) for California member banks, 1925 to 1927; and (3) for member banks in the Boston or First District, 1924 to 1925.

Table 74 (p. 342), for the California member banks, shows the net directions and amounts of change in ratios of net earnings under variable conditions as respects positions and changes in ratios of gross earnings and of total expense. While space is not available in which to indicate similar details for the other classes of institutions, the conditions, in which disagreement for these as compared with the California member banks occurs, are provided for by the use of symbols and notes. This table, based upon *averages* as contrasted with *prevailing* results indicated by frequencies, shows, among other things, (1) that irrespective of the positions and the types of change in ratios of total expense the net average changes in net earnings ratios are decreases when gross earnings ratios decrease. (2) That despite the positions and the types of change in gross earnings ratios, the net average changes in ratios of net earnings are generally increases when ratios of total expense are decreases. (3) That the net average increase in net earnings ratios accompanying increasing ratios of gross earnings and decreasing ratios of total expense is equivalent to the net average decrease in these ratios when inverse conditions respecting gross earnings and total expense ratios obtain. (4) That the net average increase in net earnings ratios is greater when gross earnings and total expense are both relatively low and increasing than is the net average decrease when both factors are high and decreasing. In the first case, increasing expense ratios make for decreases in ratios of net earnings. The average net change, however, is upward, this condition arising from the relatively greater change in the gross earnings ratios. In the second case, decreasing total expense ratios make for increasing net earnings. The average net change, however, is a decrease, showing that the loss in gross earnings exceeds the saving in total expense. (5) So far as the net directions of change in ratios of net earnings are concerned, the results according to the positions and the changes of gross earnings and of total expense ratios in California mem-

TABLE 74

AVERAGE NET YEAR-TO-YEAR CHANGE IN RATIOS OF NET EARNINGS TO EARNING ASSETS, 1925–1926, AND 1926–1927 FOR CALIFORNIA MEMBER BANKS, CLASSIFIED BY DIRECTION OF CHANGE, 1925–1926, AND 1926–1927, AND POSITIONS, 1925 AND 1926, OF RATIOS OF GROSS EARNINGS AND OF TOTAL EXPENSE TO EARNING ASSETS*

Ratios: Gross Earnings to Earning Assets		Average Net Year-to-Year Change in Ratios: Net Earnings to Earning Assets								
		Ratios: Total Expense to Earning Assets								
		Increasing			Decreasing			Increasing or Decreasing		
Direction of Year-to-Year Change	Positions Relative to Averages	Above or below the Average	Above the Average	Below the Average	Above or below the Average	Above the Average	Below the Average	Above or below the Average	Above the Average	Below the Average
Increasing	Above or Below the Average	+0.16 137	+0.23 49	+0.13 88	+0.66 68	+0.81 39	+0.46 29	+0.33 205	+0.49 88	+0.21 117
	Above the Average	+0.12[d] 36	+0.26[d] 27	−0.30 9	+0.72 33	+0.78 29	+0.26 4	+0.41 69	+0.53 56	−0.13[a] 13
	Below the Average	+0.18 101	+0.20 22	+0.17 79	+0.60 35	+0.87 10	+0.49 25	+0.29 136	+0.42 32	+0.25 104
Decreasing	Above or Below the Average	−0.65 63	−0.72 21	−0.61 42	−0.08 138	−0.11 75	−0.06 63	−0.26 201	−0.24 96	−0.28 105
	Above the Average	−0.77 32	−0.77 18	−0.77 14	−0.17 78	−0.12 61	−0.33 17	−0.34 110	−0.27 79	−0.53 31
	Below the Average	−0.51 31	−0.38 3	−0.53 28	+0.03[b] 60	−0.02[e] 14	+0.04[b] 46	−0.16 91	−0.08[e] 17	−0.17 74
Increasing or Decreasing	Above or Below the Average	−0.09[e] 200	−0.05[e] 70	−0.11[e] 130	+0.16[d] 206	+0.21[d] 114	+0.11 92	+0.04[d] 406	+0.11[d] 184	−0.02[c] 222
	Above the Average	−0.30 68	−0.15 45	−0.59 23	+0.10[d] 111	+0.17[d] 90	−0.22 21	−0.06 179	+0.06[b] 135	−0.41 44
	Below the Average	+0.02 132	+0.13 25	−0.01[c] 107	+0.24 95	+0.35 24	+0.20 71	+0.11 227	+0.24 49	+0.08 178

* "Positions" are determined relative to the yearly averages of the respective volume groups.

[a] = plus for Boston District members.

[b] = minus for Boston District members, and for national banks, by cities.

[c] = plus for Boston District members, and for national banks, by cities.

[d] = minus for national banks, by cities.

[e] = plus for national banks, by cities.

ber banks, national banks by cities, and member banks in the Boston Federal Reserve District agree. This means, for the banks and years considered, that generally or as a rule the positions and regressive tendencies of ratios of gross earnings to earning assets are the dominant factors determining net increases and net decreases in ratios of net earnings.

While the conclusions drawn from Table 74, respecting the relative effect which variable ratios of gross earnings and of total expense and of their year-to-year changes have on ratios of net earnings, do not in every particular agree with those summarized earlier in the present chapter, they are substantially the same. Whatever the differences are, they are probably due to the fact that in one case generalizations are made upon the basis of the prevailing and in the other of the average results. If a choice is to be made between the two, respecting the points of disagreement, preference, it is believed, lies with the method which is concerned with the prevailing rather than with the average behavior. But the points of agreement respecting the relative influence of variable and changing ratios of gross earnings and of total expense on ratios of net earnings far exceed those of disagreement arising from the various types of analysis employed. These in broad outline indicate unmistakably that

1. The relative levels of gross earnings and of total expense ratios influence their regressive tendencies.
2. The patterns of regression in the two are alike, and
3. The levels of and changes in ratios of net earnings depend more upon the levels of and changes in ratios of gross earnings than they do upon the levels of and changes in total expense.

CHAPTER X

THE BASIC DATA AND THEIR METHODS OF STUDY

Two bodies of bank data are analyzed in the foregoing chapters. From time to time their origin has been made clear, the terms have been defined, and the methods of analysis given in the detail which seemed to be necessary for an understanding of the discussion. More than this, however, is necessary in a research study, because, among other things, of the facts that (1) the data are employed for purposes beyond those which were implicit in the minds of the agencies collecting or assembling them; and (2) new uses imply new purposes and definite objectives, both of which determine the interpretation given to the data and the manner in which they are manipulated.

The results of statistical analysis are functions of the way in which a problem is envisaged, of the selective processes which are applied to the data, and of the methods which are used in their study. Research properly conceived cannot be casual. Its purpose is to break new ground, to test the truth or the error of certain hypotheses, and to transcend the obvious. Those who carry on research have the obligation of making, or at least of trying to make, their procedure intelligible. This thought is back of the present chapter.

The data for national banks are taken from the annual reports of the Comptroller of the Currency, the amounts for the years 1922–1927, ending June 30, being those each year for each of sixty-four cities. The series used, together with the references for 1927, are as follows:

Series	Reference: *Report of the Comptroller of the Currency,* 1927
1. Total Loans and Discounts	pp. 30– 31
2. Total Investments (total all bonds and securities)	pp. 39– 41
3. Total Demand Deposits	pp. 312–313
4. Total Time Deposits	pp. 312–313
5. Total Gross Earnings	pp. 50– 53
6. Total Expenses paid	pp. 54– 56
7. Net Earnings during the year	pp. 54– 56

Items 1 and 2 are combined to give "earning assets"; and those of 3 and 4 to indicate "total deposits."

Using the amounts for each year and for the six years, 1922–

1927, combined, for each of the series given above, and for the combinations indicated, ratios are computed as follows:

1. Total Loans and Discounts to Earning Assets
2. Total Investments to Earning Assets
3. Total Deposits to Earning Assets
4. Total Demand Deposits to Earning Assets
5. Total Demand Deposits to Total Deposits
6. Total Time Deposits to Earning Assets
7. Total Time Deposits to Total Deposits
8. Total Gross Earnings to Earning Assets
9. Total Expenses paid to Earning Assets
10. Total Expenses paid to Gross Earnings
11. Net Earnings, during the year, to Earning Assets
12. Net Earnings, during the year, to Total Gross Earnings

A sample of these ratios[1] for the years 1922–1927, combined, and for 1927, separately, is as follows:

SAMPLE RATIOS FOR NATIONAL BANKS, BY CITIES

Ratios*	New York City		Cleveland		Los Angeles	
	1922–1927	1927	1922–1927	1927	1922–1927	1927
1	70.65	71.45	68.03	69.48	79.66	79.58
2	29.35	28.55	31.97	30.52	20.34	20.42
3	79.20	81.81	84.48	87.80	94.33	97.23
4	68.76	68.79	41.82	38.91	58.14	45.86
5	86.80	84.08	49.51	44.32	61.64	47.17
6	10.44	13.02	42.66	48.89	36.19	51.37
7	13.20	15.92	50.49	55.68	38.36	52.83
8	5.88	5.83	6.14	6.55	6.14	6.31
9	3.73	3.70	4.93	5.36	4.57	4.92
10	63.42	63.38	80.23	81.83	74.42	78.01
11	2.15	2.13	1.21	1.19	1.57	1.39
12	36.58	36.62	19.77	18.17	25.58	21.99

* See immediately above for the ratios corresponding to each of these numbers.

Using the ratios for the six-year period for the banks in each city as a base, the corresponding ratios each year are expressed as percentage differences, plus (+) or minus (−). A sample of these for ratios of loans and discounts to earning assets follows, there being in all[2] 384.

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[1] A complete tabulation of the ratios is given in the Appendix, pp. 554 to 565.

[2] A complete tabulation of the percentage differences is given in the Appendix, pp. 566 to 577.

SAMPLE PERCENTAGE DIFFERENCES FROM TYPE FOR RATIOS OF LOANS AND DISCOUNTS TO EARNING ASSETS FOR NATIONAL BANKS, BY CITIES

Cities	1922	1923	1924	1925	1926	1927
New York....	+1.53	−0.58	−0.69	−2.77	+1.17	+1.13
Cleveland	+7.56	−0.79	−4.23	−2.91	+0.12	+2.13
Los Angeles...	+3.50	+1.08	−0.95	−1.82	−0.31	−0.10

Then, too, changes from year to year, expressed as percentages, are determined for the banks, by cities. A sample of the 320 such amounts for ratios of total expense to earning assets is as follows:[1]

SAMPLE YEAR-TO-YEAR PERCENTAGE CHANGES OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS FOR NATIONAL BANKS, BY CITIES

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	+1.03	−10.66	+3.13	+1.93	± 0.00
Cleveland	+4.09	+ 3.31	−3.20	−1.03	+11.90
Los Angeles	−4.42	+13.63	−4.28	+5.59	+ 4.24

The data respecting national banks which are analyzed are, therefore, actual amounts, ratios, percentage differences from type, and percentage year-to-year changes. The study proceeds upon the following hypotheses: First, that there are characteristic levels in the ratios for time and place; second, that changes in the ratios from year to year are not haphazard; third, that for different banks, by cities, given ratios, percentage differences from type, and percentage changes from year to year are interrelated; and, fourth, that for given banks, by cities, different ratios, deviations, and changes are closely associated. Moreover, it is assumed, fifth, that the types and degrees of interrelation of the operating results for given and for different national banks, by cities, are paralleled in essential details by individual banks in any section of the United States; and further, sixth, that these are essentially independent of time.

As has been noted, this study may in part be considered as a continuation of one concluded earlier. In one sense, it is an additional "experiment," the purpose of which is to determine whether the conditions found for given data for time and place hold for similar data for other times and places. Yet, it is more than this, certain aspects of the discussion being especially designed to compare and to contrast banking conditions and results among member banks in California with those in other states in the Twelfth Federal Reserve District.

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[1] A complete tabulation of the percentage year-to-year changes is given in the Appendix, pp. 578 to 589.

The only methods of analysis used to test the truth or error of the above hypotheses which need to be discussed in detail are those relating, first, to year-to-year changes in given series; and, second, to deviations and changes in different series. The first has to do with regression to type; the second, with correlation.

Two methods in the text discussion are used to measure the type and degree of change. The steps in the first are as follows: (1) Array the ratios in a given year in order of size. (2) Select distinctive parts—as in the case of national banks in which the thirty-two which are lowest and the thirty-two which are highest are chosen, and in the analysis of the California members in which continuous groups of equal width are selected—and calculate the average ratios for the same cities or institutions, as the case may be, for successive years based upon the arrays in an initial year.[1] (3) Compare the average amounts for the distinctive parts selected.

In a "universe" of varying ratios at a given time, and of changes in these ratios from period to period, both classification and averaging may legitimately be used. While the precise results secured are obviously functions of the widths of the groups and of the kinds of averages which are used, comparisons may be made provided the groups are of equal width and the averages are of the same sort throughout the period covered. Both of these conditions are strictly adhered to in all data treated in this manner.[2]

The selection of ratios according to size at a given date obviously gives them a position-bias. If the amounts subsequently were *wholly* unrelated to those at the time of selection, and if the items averaged for the respective periods were for the same institutions, then, despite the averages in the period selected, those subsequently would tend to be identical. But they are not identical, as each of the charts illustrating the results from treating bank data in this form shows. Stability of the positions from year to year in the scale of amounts indicates the continuity of the conditions from period to period determining their size, while the net amounts of change show the degrees to which the ratios are affected by internal and external factors. Management helps to determine these through the policies which are adopted, policies chosen in the light of those governing the activities of others, and by the general situation affecting industry, trade, and business.

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[1] See Charts 3, 10, 17, and others of similar type for illustrations of the results for the national banks; and Charts 4, 11, 19, and others of the same nature for the California members. See also the Appendix, pp. 383–385.

[2] The end-groups of some distributions are "open."

To be specific: Chart 59, for national banks by cities, shows the year-to-year trends and the ratios each year for total expense in terms of earning assets. The objective of management, other things being equal, is to keep these ratios as low as is compatible with efficiency. At a given time, 1922, the average expense ratio for national banks in the sixty-four cities is 5.10. For those in the thirty-two cities having the highest ratios, the average amount is 5.79; and for those in the thirty-two cities having the lowest ratios, 4.40. Between 1922 and 1923 for the total number of banks and for the two groups, the directions of change are downward. But, observe that for the banks considered as a whole the fall is 0.45 points; for those which are high, 0.65 points; and for those which are low, 0.24 points. Between 1924 and 1925, the ratios rise on the average by 0.37 points. Those which in 1922 are high rise 0.41, and those which are low in this year rise 0.32 points—the comparative net amounts running counter to the regression pattern. Between 1924 and 1925 the ratios again fall, the decreases being as follows: for the entire number, 0.47 points; for the high, 0.61 points; and for the low, 0.31 points. But these changes for the high and for the low ratios seem to be largely independent of the array in 1922 because similar declines occur when, as in Chart 60, the ratios are arrayed in 1923, and in 1924. Moreover, as is indicated by the tabular detail on Chart 60, the net average movement downward is greater and the upward movement less from year to year, based upon all arrays, for ratios which are high, than are the corresponding changes for ratios which are low. Then, too, the net average yearly change of the high ratios, according to arrays in different years, is downward; of those which are low, it is generally upward.

It is patent that in a given bank or group of banks, the ratios of total expense to earning assets at a given time are not independent of the ratios at another time. Indeed, any time unit is arbitrary. It is nothing more than a conventional break in the "stream of time." The actual ratios are functions of the relations between two constantly changing variables—operating expenses and earning assets—and these at a given time are not unrelated to those of another time. Policies affecting both are applied continuously under conditions which individual institutions and groups of institutions help to determine and by which they are affected.

Regressions to type secured by comparing bank ratios in a series of years according to arrays in given years are not implicit in the methodology. Rather, they are indicative of the changes which occur under a competitive régime where the objective of management is a profit, and in which competitors vie with each other in the end sought.

The other method of measuring regression employed in the text analysis is to compare average ratios in pairs of years on the basis of an array of the ratios in the first year of each pair. If interest lies in the average year-to-year changes in ratios standing at different levels, any year may be selected for determining their relative positions. Moreover, if average results are desired, and a number of pairs of years are available for study, the amounts for the separate pairs may be totaled and averaged. This is done for national banks by cities for the five pairs of years, 1922–1927, and for California member banks for the two pairs of years, 1925–1927. The comparative results for a number of different ratios have already been presented.[1] Let us examine this method of measuring comparative change, and the interpretation assigned to the results.

If from a "population" of varying amounts, such as bank ratios, selections at a given time are made according to size, the amounts are placed in groups, and the instances falling in each group are determined, the conventional frequency distribution is secured. If the *same* "population" at other times is similarly treated, other distributions are obtained. Such distributions for ratios of gross earnings to earning assets for California member banks for the years 1925, 1926, 1927, and for the average of the three years, are given in Chart 86 (p. 350).

Inasmuch as the ratios change from year to year, it is of interest to examine the shifts that occur and the positions at which

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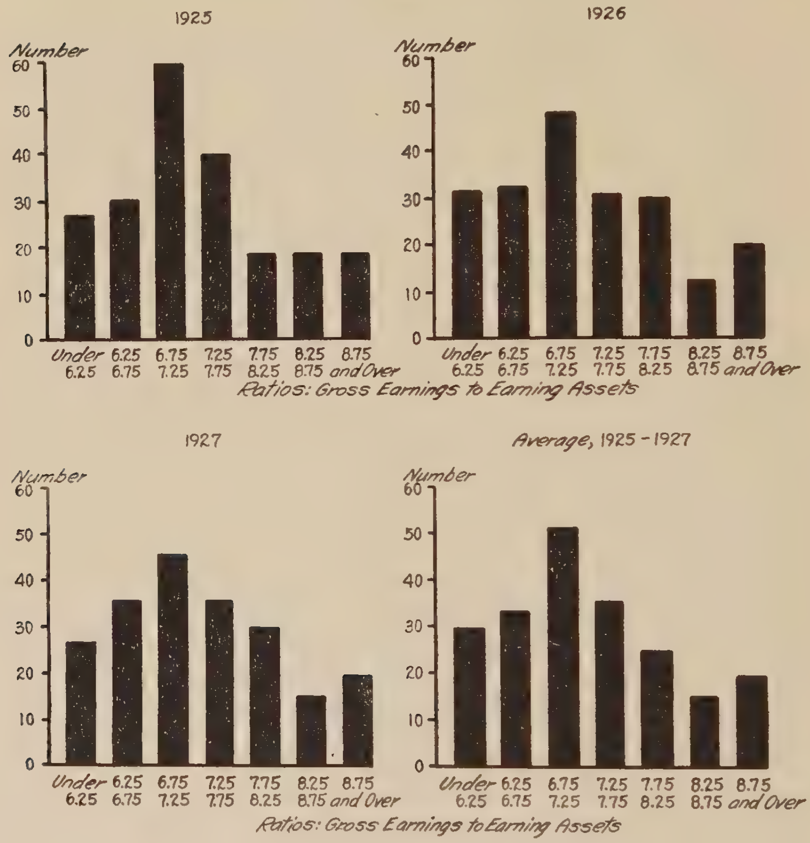
[1] For national banks by cities, see Charts 5, 12, 18, and for California member banks, Charts 6, 13, and 20, for instance. See also the Appendix, pp. 386–388.

CHART 86

Distributions of Ratios of Gross Earnings to Earning Assets for California Member Banks



they take place. The number of ratios increasing and decreasing according to their relative group-positions are given on page 351. Observe that increases predominate when the ratios are relatively low, and that decreases generally obtain when they are relatively high. But from the details given above, the amounts of the change are not shown. For ratios which are relatively low, they may reach the upper, and for those which are relatively high the lower, ranges of the scale. What actually occurs is indicated in Table 75 (p. 352) which shows the group-positions of ratios in 1926 by classified

NUMBER AND TYPE OF CHANGES IN RATIOS OF GROSS EARNINGS TO EARNING ASSETS FOR CALIFORNIA MEMBER BANKS

RATIOS: GROSS EARNINGS TO EARNING ASSETS	1925 TO 1926, ARRAYED, 1925		1926 TO 1927, ARRAYED, 1926		1925 TO 1927, ARRAYED, 1925	
(Percentage Groups)	Increasing	Decreasing	Increasing	Decreasing	Increasing	Decreasing
Total	102	105	105	102	114	93
Under 6.25........	21	7	24	8	25	3
6.25 to 6.75........	16	14	20	13	18	12
6.75 to 7.25........	30	29	26	22	32	27
7.25 to 7.75........	18	21	13	18	23	16
7.75 to 8.25........	5	12	14	16	6	11
8.25 to 8.75........	9	8	4	9	10	7
8.75 and Over	3	14	4	16	...	17

size in 1925, and group-positions of ratios in 1927 by classified size in 1926. Observe (1) that the ratios by years are positively correlated. That is, if they are high (low) in a given year, they tend to be high (low) subsequently. (2) Except at the ends of the arrays for groups in a given year, there are infiltrations into lower and higher groups in a subsequent year.

To illustrate: Chart 86 shows that in 1925 there are thirty gross earnings ratios in the group "6.25 to 6.75" per cent. It also shows that there are thirty-three ratios of this size class in 1926. What part of the number is common to the two years? Table 75 indicates that of the thirty in 1925 falling in this group, 43.34 per cent retain the same group-position in 1926. The number represented by this percentage is in common both years. Of the remaining 56.66 per cent in 1925, 41.17 per cent are lower and 58.83 are higher in 1926. But there are thirty-three ratios in 1926 ranging from "6.25 to 6.75," 39.40 per cent of which are found in the same group in 1925. The others are recruits from below (the ratios increasing) and from above (the ratios decreasing) between 1925 and 1926. The summary on this page shows that between 1925 and 1926, sixteen of the ratios increase and fourteen decrease. Accordingly, six of the thirteen, remaining in the same group in the two years, must have increased, but by amounts too small to free them from the class-group.

That is, while each of the yearly distributions in Chart 86 contains the gross earnings ratios of 207 banks, the ratios from year to year do not hold the same positions on the scales. Changes take place, and it is pointless in determining regression to type to compare the averages of the entire number or of any class

TABLE 75

Percentage Distributions of Ratios of Gross Earnings to Earning Assets, for California Member Banks, on the Basis of Group-Arrays in 1925 and in 1926

Ratios: Gross Earnings to Earning Assets, 1925 (*Percentage Groups*)	Ratios: Gross Earnings to Earning Assets, 1926 (*Percentage Groups*)						
	Under 6.25	6.25 – 6.75	6.75 – 7.25	7.25 – 7.75	7.75 – 8.25	8.25 – 8.75	8.75 and Over
Under 6.25	71.42	14.29	10.72	.....	.....	.....	3.57
6.25–6.75	23.33	43.34	23.33	.....	10.00	.....	.....
6.75–7.25	5.08	23.73	40.68	16.95	5.08	6.78	1.70
7.25–7.75	2.56	5.14	28.20	35.90	23.08	2.56	2.56
7.75–8.25	.....	.....	5.88	29.42	47.05	11.77	5.88
8.25–8.75	.....	.....	5.88	5.88	29.42	23.53	35.29
8.75 and over	5.88	.....	5.88	5.88	11.77	11.77	58.82

Ratios: Gross Earnings to Earning Assets, 1926 (*Percentage Groups*)	Ratios: Gross Earnings to Earning Assets, 1927 (*Percentage Groups*)						
	Under 6.25	6.25 – 6.75	6.75 – 7.25	7.25 – 7.75	7.75 – 8.25	8.25 – 8.75	8.75 and Over
Under 6.25	59.37	18.75	6.25	12.50	.....	3.13	.....
6.25–6.75	12.12	45.45	27.28	6.06	6.06	3.03	.....
6.75–7.25	6.25	20.83	37.51	20.83	12.50	.....	2.08
7.25–7.75	.....	3.23	35.48	38.70	12.91	6.45	3.23
7.75–8.25	.....	.....	13.33	23.34	40.00	13.33	10.00
8.25–8.75	.....	7.69	15.38	7.69	23.08	23.08	23.08
8.75 and over	.....	10.00	5.00	.....	10.00	20.00	55.00

TABLE 76

Number of Deviations Plus (+) or Minus (—), of Ratios of Gross Earnings to Earning Assets from Their Group-Averages, by Pairs of Years, 1925–1927, for California Member Banks

Ratios: Gross Earnings to Earning Assets (*Percentage Groups*)	All Pairs of Years						First Pair of Years						Second Pair of Years					
	1925 and 1926 (Years of Array)			1926 and 1927			1925 (Year of Array)			1926			1926 (Year of Array)			1927		
	Average	Deviations		Average	Deviations		Average	Deviations		Average	Deviations		Average	Deviations		Average	Deviations	
		+	—		+	—		+	—		+	—		+	—		+	—
Total (Av.)	7.28	210	204	7.30	191	223	7.28	108	99	7.28	96	111	7.28	102	105	7.33	95	112
Under 6.25	5.85	36	24	6.25	24	36	5.85	18	10	6.17	12	16	5.84	18	14	6.32	12	20
6.25–6.75	6.50	32	31	6.70	25	38	6.48	17	13	6.62	13	17	6.51	15	18	6.78	12	21
6.75–7.25	6.96	51	56	7.10	47	60	6.94	29	30	7.05	26	33	6.98	22	26	7.17	21	27
7.25–7.75	7.48	38	32	7.44	34	36	7.48	21	18	7.41	20	19	7.47	17	14	7.48	14	17
7.75–8.25	7.96	28	19	7.98	21	26	7.96	11	6	7.94	7	10	7.95	17	13	8.00	14	16
8.25–8.75	8.44	12	18	8.30	17	13	8.42	7	10	8.56	8	9	8.46	5	8	7.96	9	4
8.75 and over	9.71	13	24	8.69	23	14	9.95	5	12	8.83	10	7	9.51	8	12	8.54	13	7

without establishing the identity of those compared. This is done in the measurements based upon a single array, and in that involving re-arrays each year.

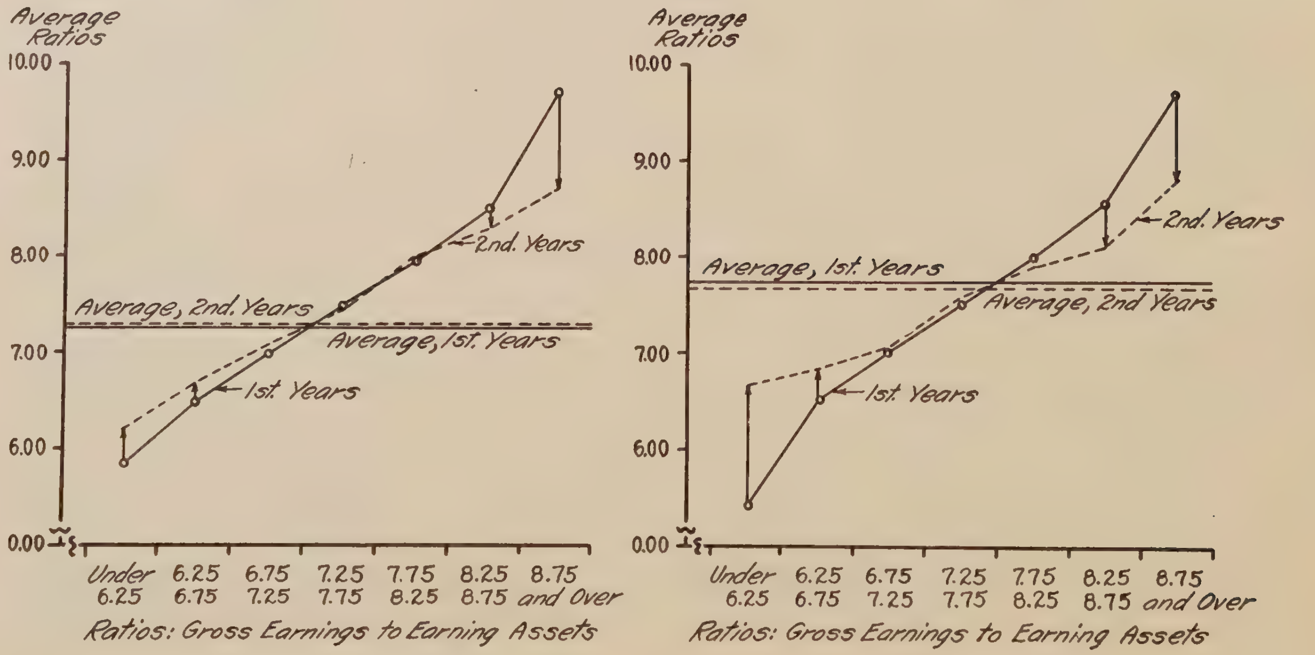
Moreover, the distribution of deviations of the ratios in each group from their averages indicates regression to type. This is shown for California member banks in Table 76 for 1925 and 1926, for 1926 and 1927, for the combined first years (1925 and 1926), and for the combined second years (1926 and 1927).

It will be noted in each of the groups in the year of array that (1) when the amounts are relatively low, most of the items deviate positively, and (2) when they are high, they deviate negatively. In the subsequent year, however, when, as is the case, the amounts are generally higher when they are low in the year of array, and customarily lower when they are high in the year of array, the nature of the deviations of the items in the groups is different. Those which are negative predominate for the groups which in the year of array are low, and those which are positive predominate for the groups which in the year of array are high. The distribution of the deviations for the paired years is consistent with what one would expect. In the year of array, the selective process in the low groups gives a relatively low, and in the high groups a relatively high, average. In the subsequent year, the stability of the ratios is indicated by their being low when they are low in the year of array, and high when they are high in the year of array, while the regressive tendencies are shown (1) by the relative displacement which occurs in the types and the distributions of the deviations, and (2) by the differences in the ratios in the given and subsequent years.

It is now clear to the reader, it is hoped, that the ratios of gross earnings to earning assets, distributed in frequency groups in Chart 86, do not from year to year remain unchanged. There is first the fact that while from year to year the number of increases is essentially equal to the number of decreases, both types of change are peculiar to ratios at definite levels. It is those which are relatively low which most frequently increase, and those which are relatively high which characteristically decrease. See the summary on page 351. Second, ratios within a given group in the year of array are distributed over a variety of groups in a subsequent year, the positions at which they are found indicating both increases and decreases. This fact is patent from Table 75.

CHART 87

Regression of Ratios of Gross Earnings to Earning Assets for "Second Years," 1926 and 1927, on Those for "First Years," 1925 and 1926, for California and for Washington Member Banks



California Member Banks

Washington Member Banks

Moreover, third, the items within a group in the year of array and in a subsequent year are differently distributed about their means in the two years, positive deviations tending to predominate when the groups are low, and negative differences to obtain when the groups are high in the scale of arrayed amounts. See Table 76. This displacement indicates change. Indeed, it is found under all methods of analysis. Moreover, it seems to be characteristic in form and to be independent of the particular type of statistical manipulation. With changes of the kinds indicated taking place from year to year in bank ratios, averages perforce must be used to detect the amounts. Since it is legitimate to treat successive years in this manner, it is equally valid to summarize the results for a series of consecutive years. This is done in the "first year–second year" method of determining regression.

For California and for Washington (state) member banks it is of interest graphically to present the regression of ratios of gross earnings, of total expense, and of net earnings, for the combined second years, 1926 and 1927, upon the combined first years, 1925 and 1926. Charts 87, 88, and 89 serve this purpose. The method by which they are drawn is analogous to that used in Chart 90 (p. 359) applying to the regression of the heights of sons upon the heights of their fathers.

It will be seen from Charts 87 to 89, inclusive, that (1) the average ratios in a given state for the two pairs of years are essentially identical; (2) when the ratios in the second years are relatively low or high, they are not so far removed from their averages as the ratios in the first years, which are relatively low or high, are distant from their averages; (3) when ratios in the first years are low (high), those of the same institutions in the second years are low (high); and (4) it is the ratios which are low in the first which increase in the second pair of years, and it is those which are high in the first which decrease in the second pair of years. That is, bank ratios of gross earnings, of total expense, and of net earnings to earning assets, for California and for Washington (state) member banks, regress to type. But this behavior is not restricted to these ratios; it holds for others as well. Moreover, for other data[1] the same phenomenon occurs.

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[1] See H. Secrist, *Margins, Expenses, and Profits in Retail Hardware Stores;* also his *Competition in the Retail Distribution of Clothing—A Study of Expense or "Supply" Curves* (The Bureau of Business Research, Northwestern University, Chicago, 1923). See also the Appendix, pp. 389–391.

CHART 88

Regression of Ratios of Total Expense to Earning Assets for "Second Years," 1926 and 1927, on Those for "First Years," 1925 and 1926, for California and for Washington Member Banks

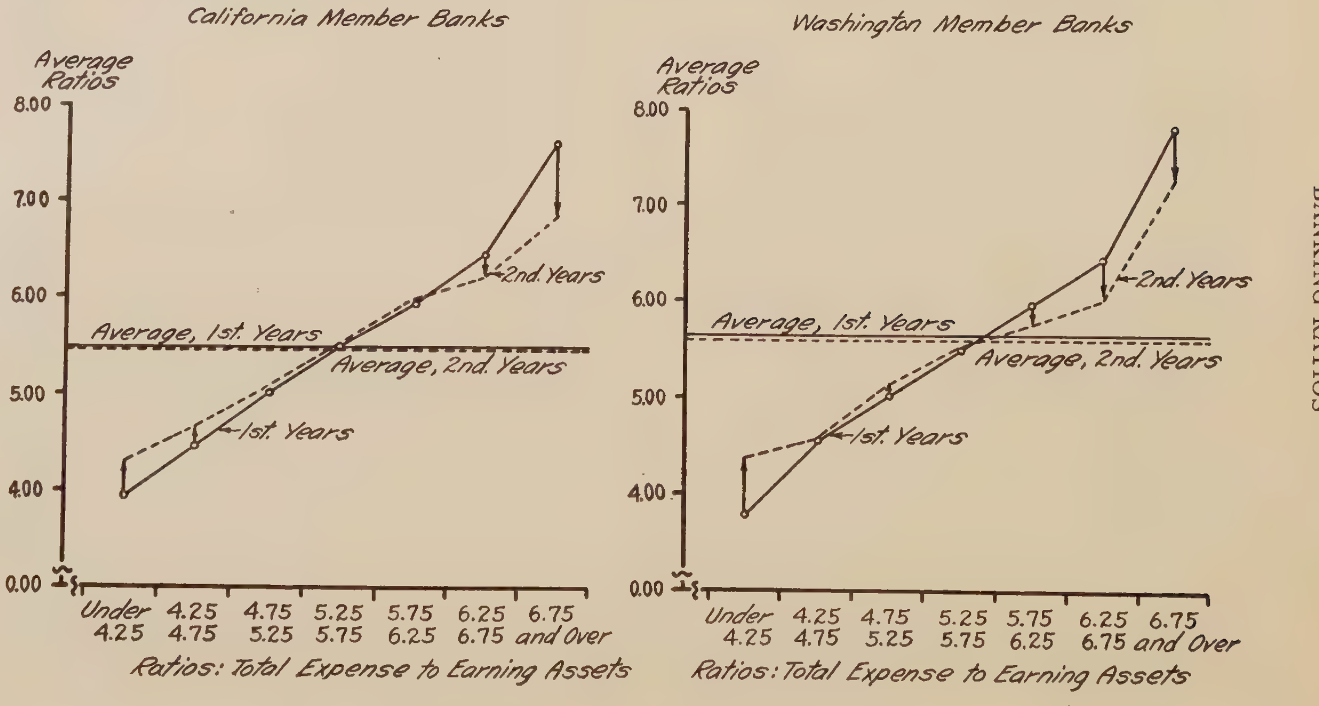
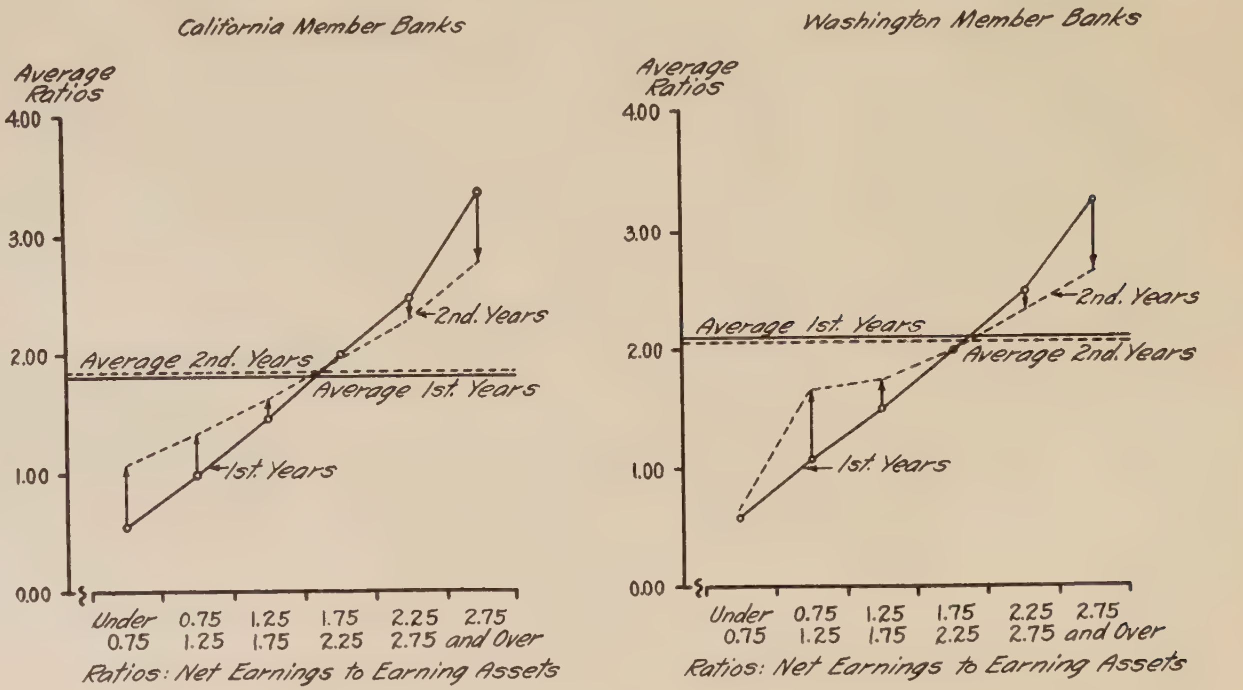


CHART 89

REGRESSION OF RATIOS OF NET EARNINGS TO EARNING ASSETS FOR "SECOND YEARS," 1926 AND 1927, ON THOSE FOR "FIRST YEARS," 1925 AND 1926, FOR CALIFORNIA AND FOR WASHINGTON MEMBER BANKS



This tendency is apparently independent of the precise methodology which is used to detect it, and is analogous to a similar tendency in the biological field.

Chart 90, illustrating the regression of the heights of sons on the heights of their fathers, is taken from *Heredity and Environment,* by Edward Grant Conklin. The author says of this chart:

> Figure 25 [our Chart 90]. Scheme to Illustrate Galton's "Law of Filial Regression" as shown in the stature of parents and children. The mean height of all parents is shown by the dotted line between 68 and 69 inches. The circles through which the diagonal line runs represent the heights of graded groups of parents and the arrow heads indicate the average heights of their children. The offspring of undersized parents are taller and of oversized parents are shorter than their respective parents. (After Walter.) . . . .
>
> *The Law of Filial Regression* is the second principle which Galton deduced from his statistical studies, or it may be called the tendency to mediocrity. He found that, on the average, extreme peculiarities of parents were less extreme in children. Thus, "the stature of adult offspring must on the whole be more mediocre than the stature of their parents, that is to say more near to the mean or mid of the general population"; and again, "the more bountifully a parent is gifted by nature, the more rare will be his good fortune if he begets a son who is as richly endowed as himself." This so-called law of filial regression is represented graphically in Figure 25 [our Chart 90] in which the actual stature of individual parents is shown by the oblique line, the stature of children by the dotted curve, and the mean stature of the race in the horizontal dotted line.[1]

It is, of course, obvious that the explanations of the regressions in biological and in economic phenomena are different, but it is not apparent that the methods used to derive "The Law of Filial Regression" cannot with equal validity be applied to detect a similar "law" in the operations of economic processes. Galton says that "the stature of adult offspring *must*[2] on the whole be more mediocre than the stature of their parents, that is to say, more near to the mean or mid of the general population. . . . ."[3] We say that the gross earnings and other ratios of banks at subsequent times *are* "more near to the mean" of all banks at such times than are those of the same banks (by arrayed groups) at prior times to the means at such times.

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[1] Conklin, E. G.: *Heredity and Environment,* sixth edition (revised), Princeton University Press, 1929, pp. 79, 80.

[2] Our italics.

[3] Conklin, *op. cit.,* p. 80.

The second method of measuring regression to type, described in the preceding pages, involves the comparison of averages in successive years on the basis of arrays in given years. Another method has to do not with comparative averages as such but with the dispersion of the items about them. The steps in the use of this device are as follows: (1) Array the items by groups in a first year. (2) Calculate the arithmetic mean of each of the groups in the first year and in the second year, the same institutions being included in the two years. (3) Determine the coefficient of average deviation of the items in each group from the group average in the first year and in the second year. (4) Obtain the over-all coefficient of average deviation of all amounts in the first year and in the second year. (5) Compare, by groups, the coefficient based upon the average deviation in the first year with the over-all coefficient in the first year. (6) Similarly, by groups, compare the coefficient based upon the average deviation in the second year with the over-all coefficient in the second year. Steps 5 and 6 require the subtraction of the coefficient for each group in the respective years from the over-all coefficient in these years. The data involved and the results secured from carrying out these processes for ratios of gross earnings to earning assets for California member banks are given in Table 77 (p. 360).

CHART 90

CHART ILLUSTRATING THE "LAW OF FILIAL REGRESSION"

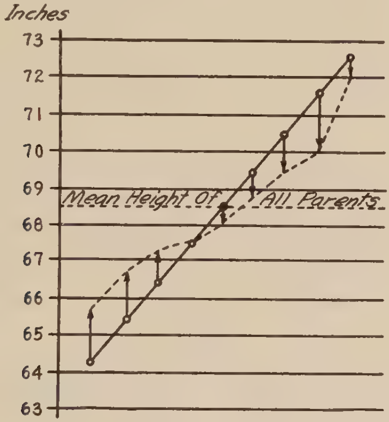

TABLE 77

Average Ratios of Gross Earnings to Earning Assets and Comparative Measures of Their Dispersion for Member Banks in California

Ratios: Gross Earnings to Earning Assets (*Percentage Groups*)	1925—"First Year"				1926—"Second Year"			
	Average	Average Deviation—Coefficient		Difference—Column 3 Less Column 2	Average	Average Deviation—Coefficient		Difference—Column 7 Less Column 6
		Groups	Over-all			Groups	Over-all	
	1	2	3	4	5	6	7	8
Under 6.25	5.85	0.04	0.11	0.07	6.17	0.08	0.11	0.03
6.25–6.75	6.48	0.02	0.11	0.09	6.62	0.07	0.11	0.04
6.75–7.25	6.94	0.02	0.11	0.09	7.05	0.07	0.11	0.04
7.25–7.75	7.48	0.02	0.11	0.09	7.41	0.06	0.11	0.05
7.75–8.25	7.96	0.01	0.11	0.10	7.94	0.04	0.11	0.07
8.25–8.75	8.42	0.01	0.11	0.10	8.56	0.09	0.11	0.02
8.75 and over	9.95	0.09	0.11	0.02	8.83	0.11	0.11	0.00

Ratios: Gross Earnings to Earning Assets (*Percentage Groups*)	1926—"First Year"				1927—"Second Year"			
	Average	Average Deviation—Coefficient		Difference—Column 11 Less Column 10	Average	Average Deviation—Coefficient		Difference—Column 15 Less Column 14
		Groups	Over-all			Groups	Over-all	
	9	10	11	12	13	14	15	16
Under 6.25	5.84	0.05	0.11	0.06	6.32	0.08	0.11	0.03
6.25–6.75	6.51	0.02	0.11	0.09	6.78	0.06	0.11	0.05
6.75–7.25	6.98	0.02	0.11	0.09	7.17	0.08	0.11	0.03
7.25–7.75	7.47	0.02	0.11	0.09	7.48	0.06	0.11	0.05
7.75–8.25	7.95	0.01	0.11	0.10	8.00	0.07	0.11	0.04
8.25–8.75	8.46	0.02	0.11	0.09	7.96	0.08	0.11	0.03
8.75 and over	9.51	0.06	0.11	0.05	8.54	0.08	0.11	0.03

If the amounts in columns 2, 3, 6, and 7 for 1925 and 1926, and in columns 10, 11, 14, and 15 for 1926 and 1927 are plotted, as in the left-hand sections of Chart 91,[1] it is found that (1) the coefficients for the entire number of banks are the same for the several years; (2) these amounts are greater each year than are those for the classified groups; (3) the coefficients for the groups in the years of array, 1925 and 1926, are less than are those for the corresponding groups in 1926 and in 1927, respectively, identical banks being included in the respective "first" and "second" years; and (4) in both "first" and "second" years the coefficients are relatively small for the groups near the center and relatively large for those at the ends of the "first" year arrays. In brief, Chart 91 shows that the dispersion of gross earnings ratios, by groups, in "second" years, relative to the dispersion, by groups, in "first" years, regresses to type, that is, approaches the average

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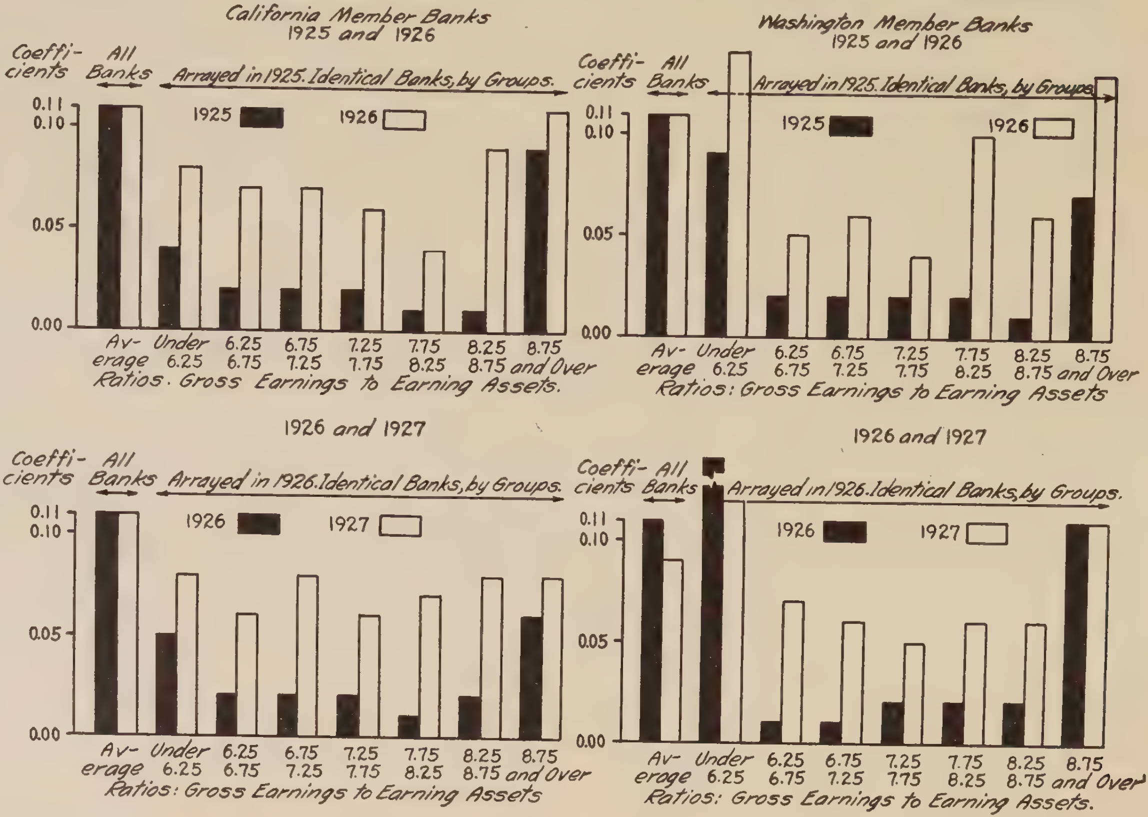
[1] See Appendix, pp. 392–396, for similar charts for member banks in Oregon, and for the other states in the Twelfth District, treated as a group.

CHART 91

Comparative Coefficients of Dispersion Based on the Average Deviation of Ratios of Gross Earnings to Earning Assets, for California and for Washington Member Banks



for all ratios taken as a single class. Moreover, regression measured in this manner for member banks in California is essentially duplicated for those in Washington, as is evident from the right-hand section of Chart 91.

The discussion in this chapter of regression to type in bank ratios relates to those of gross earnings, of total expense, and of net earnings in terms of earning assets. While these are selected for special attention in order to illustrate the various methods which are or may be used, their behavior is not unique. Indeed, it is the same as that for others, differences in the regression patterns being of degree and not of kind. For these ratios there is regression back to type when this is measured by

1. Selecting ratios which are relatively high or low in a given year and comparing the averages of such classes in successive years, the ratios of the *same* banks being considered each year.
2. Arraying the ratios each year in a series of years and comparing the average amounts by groups in the years of array—"first years"—with the corresponding average amounts of the groups in succeeding years—"second years."
3. Comparing the distribution and displacement of the deviations by groups from the group averages in "second years" with those for identical banks in "first years," and
4. Arraying the ratios each year and comparing the coefficients of dispersion, based on the average deviation, by groups in the year of array with the corresponding coefficients by groups in the succeeding year.

According to these methods the ratios and their dispersion about their averages approach the "mean or mid"—to use Galton's phraseology—of the general "population."

The foregoing methods of detecting and measuring regression to type involve the use of averages in one form or another, although it has been noted that the number and type of changes from year to year reflect the same conditions as do the averages. Indeed, it is impossible to dispense with some sort of generalizing device so long as the characteristic or typical experience is sought. There are, however, a variety of ways in which the year-to-year changes may be compared. Four methods of analysis have just been presented for certain ratios for member banks in California and in the state of Washington. There is still another one which it is of interest to describe.

It will be recalled that data are available for national banks, by cities, for sixty-four Central Reserve, Reserve, and Other Reserve cities for each of the years 1922 to 1927. Regression to type for these ratios is indicated when the data are treated as follows: (1) Divide the ratios into three groups on the basis of size in 1922. (2) For each group for identical cities, determine the directions of change in the ratios in successive years, as 1922–1923, 1923–1924, and so on. (3) For each group for each pair of subsequent years, such as 1923–1924, record the number of increases and of decreases, by cities, corresponding to increases and decreases in the prior years, 1922–1923. The results for the years given above, in the case of the group having the lowest ratios in 1922, are as follows:

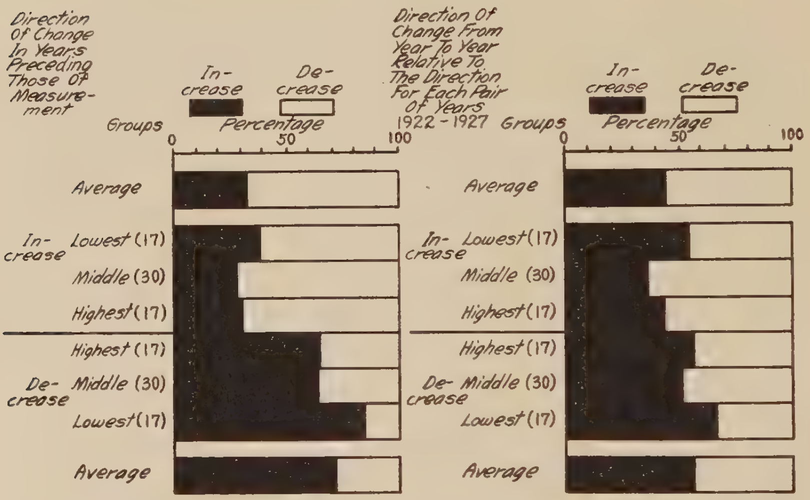
		1923 to 1924	
		Increasing	Decreasing
1922 to 1923	Increasing	1	1
	Decreasing	10	5

(4) Continue this process for each group until the directions of change in each pair of years are compared with those in each prior pair of years. (5) For each group of ratios, total the frequencies for the several pairs and compare the results within the groups and those from group to group. When this is done, as is illustrated in the left-hand part of Chart 92 (p. 364), it is found that (1) the ratios which increase between a given pair of years generally decrease, and those which decrease generally increase, between the subsequent years; and (2) there is a greater tendency for ratios which are relatively low than for those which are relatively high in 1922 to follow this rule. That is, directions of change either upward or downward between a given pair of years are generally reversed in the years following. Moreover, this tendency is more pronounced for ratios which are relatively high or low than it is for those occupying a mean position.

A modification of the method just presented is to compare the directions of change from year to year, 1922–1927, for each group of ratios; first, relative to those between 1922 and 1923; second, to those between 1923 and 1924; and so on to 1925 to 1926, use being made of the tallying device given above. Then for each group of ratios, total the frequencies, calculate the pro-

CHART 92

Regression of Year-to-Year Directions of Change in Ratios of Gross Earnings to Earning Assets for National Banks, by Cities, 1922–1927

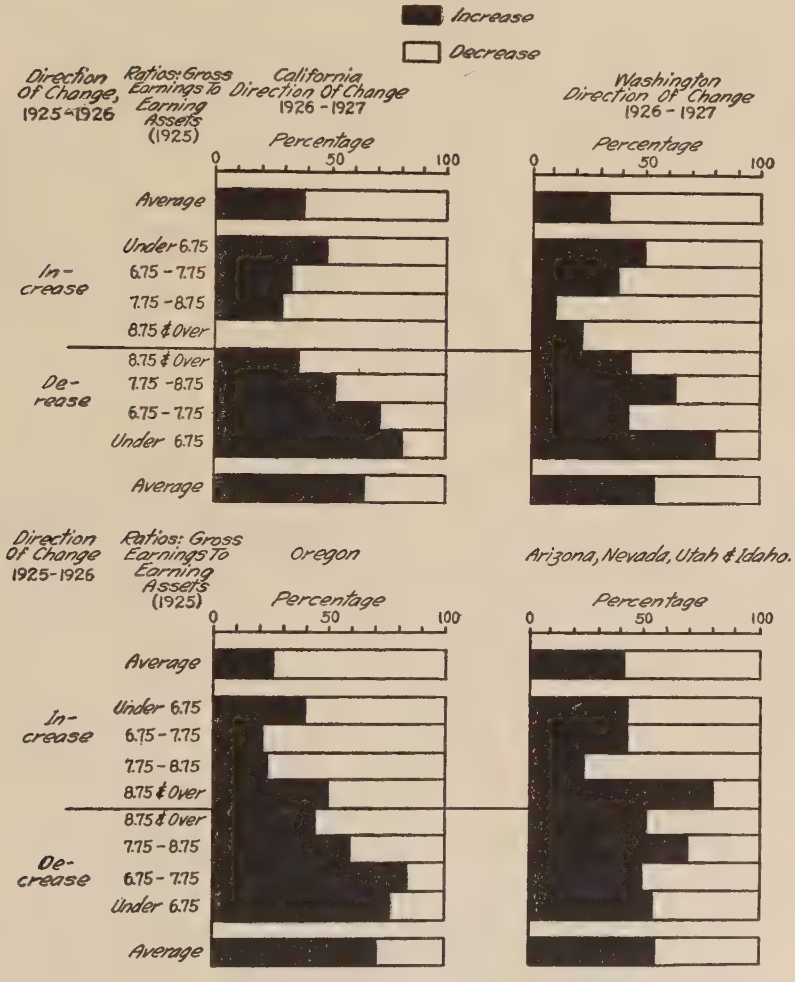


portions increasing or decreasing between the successive years relative to the total number which increases or decreases in the years used as a base, and plot the results. This, for national banks by cities, is done in the right-hand part of Chart 92. From this chart it is seen that (1) ratios which increase tend subsequently to decrease, and those which decrease tend subsequently to increase. Moreover, (2) this tendency is more pronounced for ratios which in 1922 are relatively high or low than it is for those occupying a position nearer the mean of all ratios.

Chart 92 has to do with gross earnings ratios for national banks by cities. Chart 93, on the other hand, illustrates by states regression to type in these ratios for the individual banks in the Twelfth Federal Reserve District which are members of the Federal Reserve System. The query which it answers is as follows: Of ratios of classified size in 1925, which increase or decrease between 1925 and 1926, what percentage increases or decreases between 1926 and 1927? There can be no doubt about the nature of the answer which is given. It is clear that (1) for ratios which increase between 1925 and 1926, the majority decrease between

CHART 93

Regression of Year-to-Year Directions of Change in Ratios of Gross Earnings to Earning Assets for Member Banks in the Twelfth Federal Reserve District, by States, 1925–1927



1926 and 1927; and (2) for ratios which decrease between 1925 and 1926, the majority increase between 1926 and 1927. Moreover, (3) the higher the ratios in 1925, which increase between 1925 and 1926, the greater is the proportion in which the directions of change are reversed between 1926 and 1927; and (4) the lower the ratios in 1925, which decrease between 1925 and 1926, the greater is the proportion in which the directions of change are reversed between 1926 and 1927. The proportions of the bars' lengths in white indicate the reversal for ratios which increase between 1925 and 1926, and those in black show the reversals for ratios which decrease between 1925 and 1926.

Despite the irregularities in the relative numbers which increase or decrease, under the conditions provided for in the chart, regression is clear. Moreover, it is in keeping with the pattern disclosed by using other methods of analysis, and obtains not only for banks in the state of California, to which especial attention at other places is given, but also to banks in the other states in the Twelfth District. It will be observed that when gross earnings ratios are decreasing, the reversal tendency—that is, for them subsequently to increase—is less pronounced than is that when ratios are increasing, reversal, in this case, being decreases. That is, bankers are less able to prevent declines after a rise than to bring about increases after a fall. There is, obviously, no desire on the part of bankers to decrease gross earnings ratios whether they are tending upward or downward. When decreases occur, efforts will be made to increase them. The results of such efforts, however, are more effective if the ratios are low than they are if they are high.

Reversals of directions of change from year to year in ratios of gross earnings to earning assets characterize not only member banks treated as a whole, in the several states in the Twelfth District, but also each distinctive class. This fact is shown on Chart 94, which applies to all member banks in the District, classified by amounts of average earning assets, 1925–1927.

Moreover, what is true for ratios of gross earnings, respecting the reversals of direction of change from year to year, is also true for ratios of total expense and of net earnings to earning assets.[1]

The second aspect of the methodology used in the text and in the accompanying tables and charts which needs to be further discussed is that relating to the measurement of the interrelations between series. These, it will be recalled, have to do with correlated percentage differences from type and correlated percentage changes from year to year. It will suffice at this place to deal with

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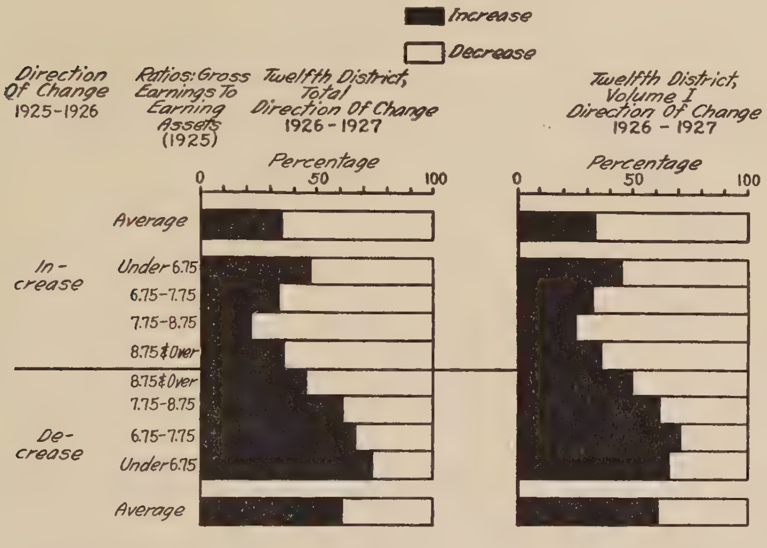
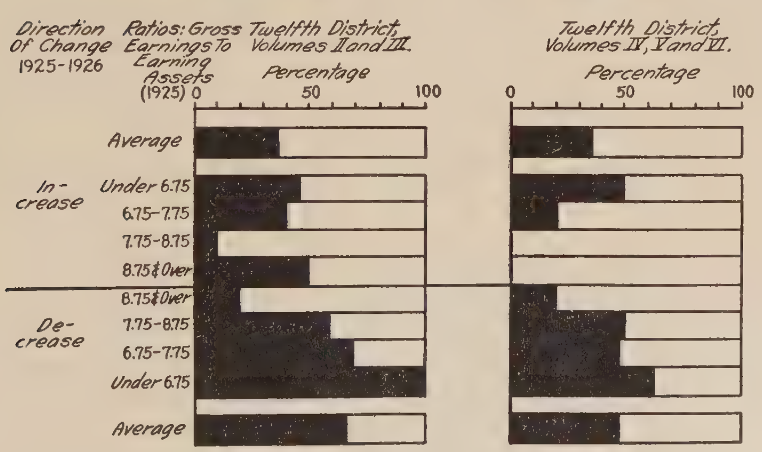
[1] See Charts 112–113 in the Appendix, pp. 397–398.

CHART 94

REGRESSION OF YEAR-TO-YEAR DIRECTIONS OF CHANGE IN RATIOS OF GROSS EARNINGS TO EARNING ASSETS FOR MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY AVERAGE AMOUNTS OF EARNING ASSETS, 1925–1927





the data and methods for national bank ratios for the sixty-four Central Reserve, Reserve, and Other Reserve cities. A somewhat similar analysis of the individual member bank data follows later.

The data for national banks for several series of ratios are yearly percentage differences from type and percentage changes from year to year. Having determined measurements of the behavior of the deviations and of the changes in single series, what were wanted were summaries of the manner in and the degree to which such behavior is interrelated. Common sense and an understanding of banking operations within and between banks served to suggest series of data to be analyzed for this purpose. As to the form of analysis, two methods presented themselves: First, the use of the (Pearsonian) coefficient of correlation, and, second, the employment of frequency surfaces and measures of regression. Correlation coefficients are not used, for the following, among other, reasons: (1) The series are historical and of short duration. (2) The deviations are perforce taken not from single averages for the respective paired series but, in the case of the national banks, from sixty-four different averages. Moreover, (3) the deviations are expressed not in absolute but in percentage form. Then, too, (4) a single measure of the type and degree of association was not desired, inasmuch as the meaning of a coefficient is little understood by the readers for whom the material is prepared and to whom presumably it will be helpful. In addition, (5) it was thought desirable to describe in detail the nature of the association by methods which would make it possible for bankers to compare their own records with those presented, and to match their experience against that of groups. This can best be done, it was felt, by using frequency surfaces and measurements of regression summarizing them.

The following brief statement and the illustration (Table 78, p. 370) indicate the methods by which the percentage deviations from type are paired and the association between them is determined. The percentage differences for 1922, 1923, and 1927 for nine of the sixty-four cities are given at the top of page 369. With basic data of the kind just noted for each of the years 1922–1927 for each of sixty-four cities, provision is made for comparing the ratios. Groups of sufficient number and width properly to distribute the respective series are selected. With this done, the further procedure is to prepare a form, such as that in Table 78, into which the paired amounts year by year and city by city can be placed. The table shows (1) the groups for two series of amounts, distinction being made between those which are above and those which are below the six-year averages of the respective cities for each of the series; (2) the blocks (cells) defined by the groups; and (3) the amounts, frequencies, and averages which

RATIOS FOR NATIONAL BANKS, BY CITIES

CITIES	RATIOS: GROSS EARNINGS TO EARNING ASSETS (Percentage Differences from Type—Average, 1922–1927)			RATIOS: NET EARNINGS TO EARNING ASSETS (Percentage Differences from Type—Average, 1922–1927)		
	1922 Col. 1	1923 Col. 2	1927 Col. 3	1922 Col. 4	1923 Col. 5	1927 Col. 6
New York City	+ 8.16	+ 5.95	— 0.85	+14.41	+ 6.57	— 0.93
Boston	+14.75	—16.21	+ 3.28	+27.97	—23.80	+ 3.57
Baltimore	+ 6.27	— 3.47	+ 1.98	+15.38	+ 4.80	— 5.28
Galveston	+21.95	+10.97	— 5.33	— 0.76	—28.24	— 2.29
Toledo	+ 0.28	—10.08	—10.22	— 5.98	—10.68	— 5.13
Detroit	+ 3.82	+ 6.60	+ 9.72	+11.89	+ 9.09	+14.68
Denver	— 0.31	— 8.74	+ 4.60	— 5.17	—35.06	+16.09
Ogden	+19.50	— 4.70	—17.98	+18.71	— 1.29	—24.52
Salt Lake City	+30.90	— 4.03	— 3.43	+38.46	— 2.20	+ 2.75

would be secured if the paired percentage differences above and those for the other cities and years—384 in all—were distributed in the blocks. It will be observed that certain of the cells contain amounts. These in order from left to right in each cell are the gross earnings and the corresponding net earnings percentage differences for the banks in the following cities:

Boston	1927	Detroit	1922, 1927
Baltimore	1922	Denver	1922
Galveston	1927	Ogden	1927
Toledo	1922, 1927	Salt Lake City	1922

The cells also contain figures showing the number of paired amounts for the entire "population." With the paired deviations for each city for each year distributed in the same manner as are those for the cities just named, summaries in the form of averages are secured. These are found in the last two columns at the right and in the last two lines at the bottom of Table 78, the preceding columns and lines, respectively, containing amounts necessary for their calculation. The totals in the columns and lines defined by the signs refer to the respective quadrants and the respective halves. The average amounts at the extreme right

TABLE 78

TABULATION FORM FOR FREQUENCY SURFACES AND MEASURES OF REGRESSION FOR NATIONAL BANK DATA

Ratios Gross Earnings To Earning Assets (% Difference)		Ratios Net Earnings To Earning Assets (Percentage Difference)														Total						Number	Average	
		← Signs	Above The Average						← Signs	Below The Average						Gross Earnings	Net Earnings	Gross Earnings	Net Earnings	Gross Earnings	Net Earnings (Net)		Gross Earnings	Net Earnings (Net)
Position	Groups		37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50		Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over	1243.33	2594.94	249.58	543.20	1492.91	+2051.74	192	7.78	+10.69
Signs →		XX	+						XX	−						+	+	+	−	+	XX	XX	+	XX
Above the Average	25 and Over	+	30.90 7 38.46			1			+							279.49	465.59			279.49	+465.59	8	34.94	+58.19
	20 – 25		7					1		1						171.49	364.87	21.95	0.76	193.44	+364.11	9	21.49	+40.45
	15 – 20		2		1	3	1			1						126.13	176.58	16.90	7.36	143.03	+169.22	8	17.88	+21.15
	10 – 15		4	1	3	7	6	2		3	1	1	1		1	275.84	491.99	80.34	139.67	356.18	+352.32	30	11.87	+11.74
	5 – 10		2	3	3	6.27 9 15.38	9.72 10 14.68	10		7	2					272.93	609.11	59.34	54.90	332.27	+554.21	46	7.22	+12.05
	Under 5			3	2	5	3.82 14 11.89	3.28 33 3.57		0.28 16 5.98	11	3	3	1		117.45	486.80	71.05	340.51	188.50	+146.29	91	2.07	+1.61
Signs →			+							−						−	+	−	−	−	XX	XX	−	XX
Below the Average	Under 5	−			1	1	7	14	−	0.31 33 5.17	21	6	4	1	1	61.39	234.31	180.78	639.87	242.17	−405.56	91	2.66	−4.46
	5 – 10		1	1		2	3	6		5.33 12 2.29	18	16	3	2	2	74.36	82.61	352.19	810.63	426.55	−728.02	64	6.66	−11.37
	10 – 15							1		10.22 5 5.13	9	6	3		1	10.85	3.65	284.94	361.35	295.79	−357.70	25	11.83	−14.31
	15 – 20							2		1	1	1	17.96 4 24.52			32.12	5.49	121.10	134.78	153.22	−129.29	9	17.02	−14.36
	20 – 25														1			22.83	41.88	22.83	−41.88	1	22.83	−41.88
	25 and Over													1	1			63.17	81.54	63.17	−81.54	2	31.59	−40.77
Total: Net Earnings	2594.94	+	1173.91	227.94	236.33	439.83	345.47	171.46	−	108.83	156.78	73.68	106.15	30.61	67.15	178.72 543.20	326.06	1025.01	2070.05	1203.73	−1743.99	192	6.27	−9.08
Total: Gross Earnings	1243.33	+	492.80	47.38	81.20	246.02	194.47	181.46	+	152.25	52.54	15.44	17.46	1.20	10.69	249.58								
Total: Net Earnings	326.06	+	40.17	37.19	24.09	50.24	106.81	63.56	−	213.63	532.55	544.25	339.13	131.30	309.19	2070.05								
Total: Gross Earnings	178.72	−	0.60	0.71	0.94	18.97	40.22	117.28	−	234.16	303.21	215.94	133.62	48.25	89.83	1025.01								
Total: Net Earnings	2921.00	+	1214.08	265.13	260.42	490.07	452.28	239.02	−	322.46	689.33	617.93	445.28	161.91	376.34	2613.25								
Total: Gross Earnings (Net)	+1064.61	XX	+492.20	+46.67	+80.26	+227.05	+154.25	+64.18	XX	−81.91	−250.67	−200.50	−116.16	−47.05	−79.14	−775.43								
Number	179	XX	23	8	10	28	41	69	XX	79	63	33	18	5	7	205								
Average: Net Earnings	16.32	+	52.78	33.14	26.04	17.50	11.03	3.46	−	4.08	10.94	18.72	24.74	32.38	53.76	12.75								
Average: Gross Earnings (Net)	+5.95	XX	+21.40	+5.83	+8.03	+8.11	+3.76	+0.93	XX	−1.04	−3.98	−6.08	−6.45	−9.41	−11.31	−3.78								

Check for Gross Earnings

+1492.91	+1064.61
−1203.73	−775.43
+289.18	+289.18

Check for Net Earnings

+2051.74	+2921.00
−1743.99	−2613.25
+307.75	+307.75

show the net average percentage differences for ratios of net earnings corresponding to average percentage deviations in gross earnings ratios. Those in the last line at the bottom give net average percentage differences of ratios of gross earnings for given average percentage deviations of ratios of net earnings. In the former case, net earnings percentage differences are treated as the dependent and gross earnings percentage differences as the independent variable; in the latter case, gross earnings percentage deviations are considered as the dependent and net earnings percentage deviations as the independent variable.

Observe from the average amounts at the extreme right of Table 78 that (1) when gross earnings ratios are above (below) their averages, net earnings ratios are above (below) their averages, and (2) the greater the average percentage deviations in the former, the greater the net average percentage deviations in the latter series. Similarly, from the average amounts at the bottom of the table, notice that (1) when net earnings ratios are above (below) their averages, ratios of gross earnings are above (below) their averages; and (2) the larger the average percentage deviation in ratios of net earnings, the larger the net average percentage differences in ratios of gross earnings. While the two series in the matter of percentage deviations from type are positively correlated, a given difference in the percentage deviations in gross earnings ratios is not accompanied by equal differences in percentage deviations in ratios of net earnings. Conversely, a given difference in the percentage deviations in ratios of net earnings is not associated with equal differences in percentage deviations in ratios of gross earnings.

It is the corresponding averages in the independent and dependent variables which are instructive. These would be submerged and lost in a single coefficient which summarized the degree of correlation for the entire experience. Moreover, the distribution of the frequencies on the surface of this, and of other tables in the text, supplements the averages and helps to define and to determine their significance. Surfaces similar to the oné in Table 78 are used to the extent to which space permits. They, together with measures of regression similar to those in the average columns and lines in Table 78, constitute the evidence or its lack respecting correlation between the percentage deviations and percentage year-to-year changes in bank ratios. Similar but not identical devices are used in the study of the nature and degree of association between series of ratios for member banks in the Twelfth District. The nature of the data for member banks in California and in other states in this District, and the methods by which they are manipulated, are presented below.

Data for 1925, 1926, and 1927, for each of the member banks in the Twelfth Federal Reserve District, were made available by the Federal Reserve Bank of San Francisco. The material taken directly from Powers machines was furnished in a continuous roll. Code information provided made possible proceeding as follows:

1. To classify the banks according to the following legal and operating distinctions, but not to identify the banks by name or by city in which located: (*a*) national unit banks, (*b*) national banks with branches, (*c*) state unit banks, and (*d*) state banks with branches.

2. To place each bank in one of the twenty-two economic zones into which the state is divided by the Federal Reserve Bank.

3. To determine the class-size (1920) of the cities in which the banks are located.

Statements of conditions of the banks applied to the following periods: In 1925: April, June, September, December; in 1926: April, June, December; and in 1927: March, June, October, December. Owing to the variations in the condition reports from one call date to another, the data for the several calls were averaged to secure representative yearly figures, the report for the preceding December being included with the reports for the calls in the following year. This method of treatment provided an amount each year which is an average of four or of five reports depending upon whether there are two (as in 1926) or three (as in 1925 and 1927) calls between the beginning and the end of the calendar year. Earnings and expense data for a given year were secured by adding the semi-annual totals for June and for December.

Average annual figures for 1925, 1926, and 1927 were obtained for each member bank in California for:

Capital Stock
Capital Stock Surplus, and Undivided Profits
Loans, Discounts, and Overdrafts
Investments (Stocks and Bonds)
Earning Assets (Total of Loans and Investments)
Demand Deposits
Time Deposits
Total Deposits (Total of Demand and Time Deposits)
Gross Earnings
Net Earnings[1]
Total Expense[2]

These average amounts were then transferred to master cards, there being one card for each bank. The following form, showing certain data, is the one which was used:

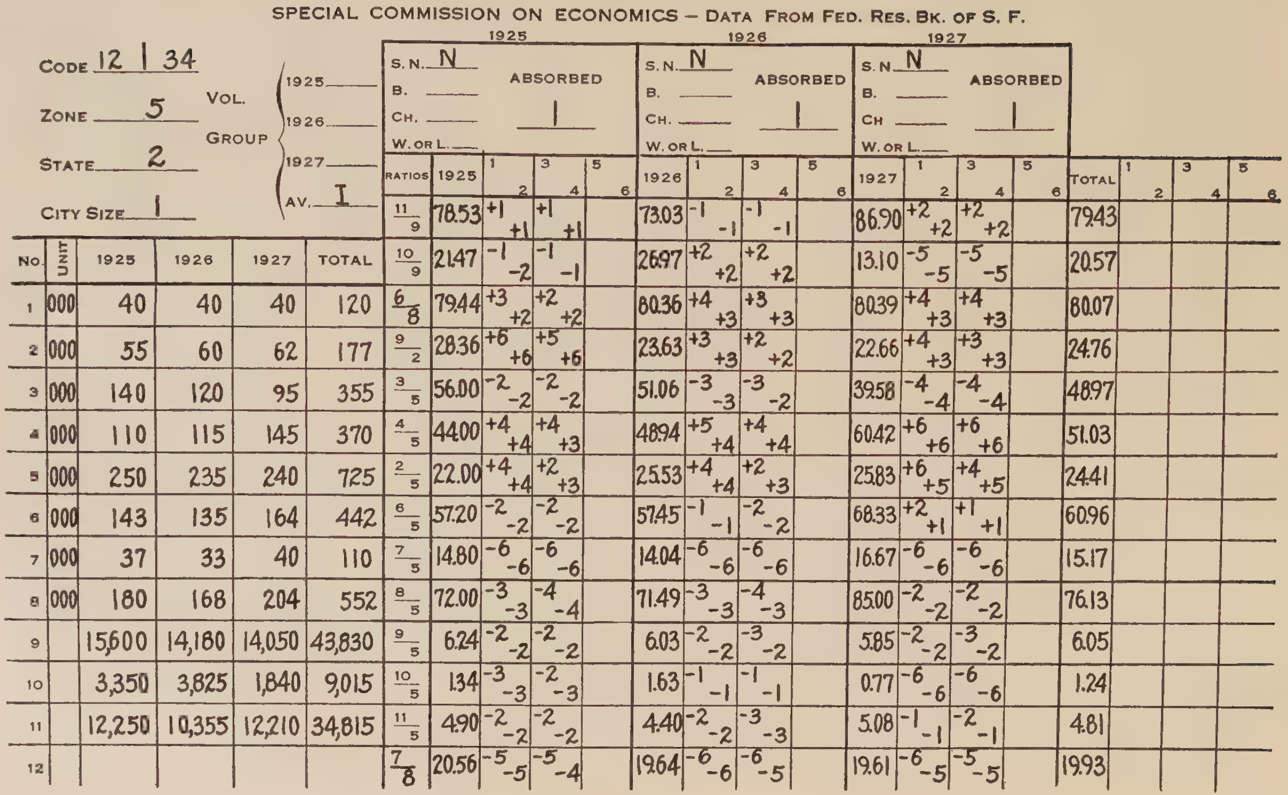
---

[1] Net earnings are those shown before losses have been charged off or recoveries credited.

[2] Total expense is the difference between net earnings and gross earnings.

CHART 95

Tabulation Card for Member Bank Data



SPECIAL COMMISSION ON ECONOMICS – DATA FROM FED. RES. BK. OF S. F.

CODE 12 | 34
ZONE 5
STATE 2
CITY SIZE 1

VOL. GROUP
1925 ___
1926 ___
1927 ___
AV. I

1925
S. N. N
B. ___
CH. ___
W. OR L. ___
ABSORBED |

1926
S. N. N
B. ___
CH. ___
W. OR L. ___
ABSORBED |

1927
S. N. N
B. ___
CH ___
W. OR L. ___
ABSORBED |

						RATIOS	1925	1	2	3	4	5	6	1926	1	2	3	4	5	6	1927	1	2	3	4	5	6	TOTAL	1	2	3	4	5	6
						11/9	78.53	+1	+1	+1	+1			73.03	-1	-1	-1	-1			86.90	+2	+2	+2	+2			79.43						
No.	UNIT	1925	1926	1927	TOTAL	10/9	21.47	-1	-2	-1	-1			26.97	+2	+2	+2	+2			13.10	-5	-5	-5	-5			20.57						
1	000	40	40	40	120	6/8	79.44	+3	+2	+2	+2			80.36	+4	+3	+3	+3			80.39	+4	+3	+4	+3			80.07						
2	000	55	60	62	177	9/2	28.36	+6	+6	+5	+6			23.63	+3	+3	+2	+2			22.66	+4	+3	+3	+3			24.76						
3	000	140	120	95	355	3/5	56.00	-2	-2	-2	-2			51.06	-3	-3	-3	-2			39.58	-4	-4	-4	-4			48.97						
4	000	110	115	145	370	4/5	44.00	+4	+4	+4	+3			48.94	+5	+4	+4	+4			60.42	+6	+6	+6	+6			51.03						
5	000	250	235	240	725	2/5	22.00	+4	+4	+2	+3			25.53	+4	+4	+2	+3			25.83	+6	+5	+4	+5			24.41						
6	000	143	135	164	442	6/5	57.20	-2	-2	-2	-2			57.45	-1	-1	-2	-2			68.33	+2	+1	+1	+1			60.96						
7	000	37	33	40	110	7/5	14.80	-6	-6	-6	-6			14.04	-6	-6	-6	-6			16.67	-6	-6	-6	-6			15.17						
8	000	180	168	204	552	8/5	72.00	-3	-3	-4	-4			71.49	-3	-3	-4	-3			85.00	-2	-2	-2	-2			76.13						
9		15,600	14,180	14,050	43,830	9/5	6.24	-2	-2	-2	-2			6.03	-2	-2	-3	-2			5.85	-2	-2	-3	-2			6.05						
10		3,350	3,825	1,840	9,015	10/5	1.34	-3	-3	-2	-3			1.63	-1	-1	-1	-1			0.77	-6	-6	-6	-6			1.24						
11		12,250	10,355	12,210	34,815	11/5	4.90	-2	-2	-2	-2			4.40	-2	-2	-3	-3			5.08	-1	-1	-2	-1			4.81						
12						7/8	20.56	-5	-5	-5	-4			19.64	-6	-6	-6	-5			19.61	-6	-5	-5	-5			19.93						

Explanation of Card: "Code" refers to the number assigned to each bank. "Zone," "State," and "City Size"[1] are self-explanatory. "Volume Group"[2] refers to the classification of the banks according to the size of their earning assets. The symbols "S.N.," "B.," "Ch.," "W. or L." in the captions for the separate years indicate the character and history of each of the institutions. "S." stands for state bank, and "N." for national bank. "B." indicates banks with a branch or branches, and distinguishes such institutions from those which operate as units. The date of the bank's charter, if it fell within the period 1925–1927, is placed after "Ch." (chartered). "W. or L." are abbreviations for "withdrawn or liquidated." Under the word, "absorbed," absorptions of whatever form are noted.

The numbers in the extreme left-hand column, under the caption "No.," refer to the items used in the analysis. These are as follows:

1. Capital Stock
2. Capital Stock and Undivided Profits
3. Loans, Discounts, and Overdrafts
4. Investments
5. Earning Assets
6. Demand deposits
7. Time Deposits
8. Total Deposits
9. Gross Earnings
10. Net Earnings
11. Total Expense

The "Unit" column shows that all amounts from 1 to 8, inclusive, are in thousands of dollars; those from 9 to 11, inclusive, are in actual dollars. The column headed "ratios" specifies the various ratios computed from the dollar amounts. For example, $\frac{11}{9}$ is the ratio of total expense to gross earnings. The identity of the other ratios may be established by reference to the numbers above, opposite the respective accounts. The numbers from 1 to 6, staggered in the caption, refer to deviations of the respective amounts from their various averages when expressed in terms of ten per cent steps. These deviations (steps) are, of course, either positive or negative. In position 1, they are taken from the average for all banks; in position 2, from the average for all banks of similar class, i.e., all national unit banks, all state banks with branches, and so on; in position 3, from the average for all banks in the same city-group; and in position 4, from the average for all banks in the same volume (earning assets) group. Only four of the six deviation-positions provided for on the card are used in this analysis.

---

[1] The grouping used in the analysis is as follows:

I. Under 1,500
II. 1,500 to 2,499
III. 2,500 to 4,999
IV. 5,000 to 14,999
V. 15,000 to 49,999
VI. 50,000 to 99,999
VII. 100,000 and Over

In the presentation of the results, however, groups I and II, III and IV, and V, VI, and VII were combined into three final classifications.

[2] The classes used in the analysis are as follows:

I. Under $1,000,000
II. $1,000,000 to $2,000,000
III. $2,000,000 to $3,000,000
IV. $3,000,000 to $4,000,000
V. $4,000,000 to $5,000,000
VI. $5,000,000 and Over

In presenting the results, however, groups with volumes in excess of $1,000,000 are widened, II and III making up one, and IV, V, and VI constituting another class—the basis for determining the earning assets of each bank being the average amount for 1925, 1926, and 1927, combined.

So much in explanation of the type and source of the data and the symbols used on the master cards! It was desired to analyze these data so as to determine for individual series (1) amounts and differences characteristic of regions of the state, bank classes, banks of different size, and banks located in cities with different population; and (2) their regressive tendencies. For these purposes the actual ratios could be used. In order, however, to secure measurements of interrelation between series, it was necessary, for reasons analogous to those presented for national bank ratios, by cities, to express the ratios as percentage deviations from type. For this purpose, the base amounts used were those for all banks, or for distinctive classes for a given year. The "positions" on the card shown above and the descriptive details concerning them define those which were used.

Because of the labor involved in computing percentage deviations, item by item, a short-cut method described below was used. This is a labor-saving device and in the aggregate involves negligible, because compensating, errors. The procedure is as follows: (1) Calculate the group average which is taken as the base;[1] (2) with this amount as a standard, construct a deviation scale by adding and by subtracting successively ten per cent increments until amounts are reached which provide for the deviations for the several banks. To illustrate: The average ratio of loans and discounts to earning assets for all California member banks in 1925 is 67.72. A ten per cent step in terms of the average, accordingly, is 6.77. This amount successively is added to and subtracted from 67.72, which gives the difference scale on page 376.

The corresponding ratio for each bank is then compared with this scale. The group into which it falls determines the number and sign of its step-deviation. For example, a ratio of 82.36 per cent has a step-deviation of +3; that of 36.42, one of −5.

Each of these cards, therefore, gives the history of a member bank. This is expressed in terms of bank type, earning assets class, city size, zone location, actual amounts of loans and discounts, deposits, earnings, expenses, and so on. Moreover, each card, by the amounts and signs of the step-deviations for the several ratios,

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[1] The group averages for California and for other member banks in the Twelfth District are given in the Appendix. See pp. 545 to 553.

Sign of Deviation	Percentage Deviation Steps	Ratios: Loans and Discounts to Earning Assets
Plus	6	101.57 and Over
	5	94.80 to 101.57
	4	88.03 to 94.80
	3	81.26 to 88.03
	2	74.49 to 81.26
	1	67.72 to 74.49
Minus	1	60.95 to 67.72
	2	54.18 to 60.95
	3	47.41 to 54.18
	4	40.64 to 47.41
	5	33.87 to 40.64
	6	Under 33.87

furnishes a basis for comparing the operating results of a given institution. For instance, the quantities and signs on the card presented above show, among other things, that (1) In all three years, ratios of gross earnings, of total expense, and of net earnings to earning assets are relatively low—ratios $\frac{9}{5}$, $\frac{11}{5}$, and $\frac{10}{5}$, respectively. (2) In all three years, ratios of loans and discounts to earning assets are relatively low—ratio $\frac{3}{5}$—and those of investments to earning assets are relatively high—ratio $\frac{4}{5}$. (3) In all three years, ratios of total deposits to earning assets are relatively low—ratio $\frac{8}{5}$. (4) In two of the three years, ratios of demand deposits to earning assets—ratio $\frac{6}{5}$—are relatively low, while in all three years, ratios of demand deposits to total deposits—ratio $\frac{6}{8}$—are relatively high.

In this case, relatively low operating expenses do not accompany relatively high net earnings. This condition probably results because ratios of gross earnings, of loans and discounts, and of demand deposits to earning assets are relatively low. On the other hand, total deposit ratios are low. This condition, other things being equal, indicates an active utilization of funds. But the bank's investments to earning assets are relatively high, which fact indicates a relatively unprofitable use of funds. Accordingly, it is difficult, if not impossible, properly to appraise the bank's operation without consulting the collective or average experience of banks with like (group) earning assets, and with similar locations. Moreover, without determining such collective experience, it is impossible to know the manner in which and the degree to which the different operating processes of banks are interrelated. The data furnished supply the precise facts for doing this.

Having obtained for each bank in each of the three years 1925, 1926, and 1927, the deviations for the four positions shown on the card, the interrelation of series was measured by pairing them according to their respective deviations. To do this the data were distributed on forms similar to Table 78, provision being made for converting the step-deviations into actual amounts, and summarizing the results for all of the banks in question. Forms were used for the separate years, for each bank class, each earning assets group, and each city-size location, as well as for all banks unclassified. In order to render the material less unwieldy for presentation and more nearly representative of the whole experience, the pairings of series were integrated by years, classes of banks, city size, and volume groups. For similar reasons, the deviation steps on either side of the average were, for certain series, reduced to three steps of double width.

From the various integrations, final regression figures were computed. It is these which were made the bases of summaries such as the ones appearing in Tables 5 and 6, and which constitute the evidence, or its lack, pointing to the manner in which series of data representing the results of bank operation in the Twelfth Federal Reserve District are interrelated. It is unnecessary for these banks to repeat what is said earlier concerning the advantage in this respect which frequency surfaces and regression measures have over coefficients of correlation.

This chapter is written for the purpose of describing the methods which are used in this study. No one familiar with statistical analysis of economic phenomena can fail to appreciate the degree to which the results secured depend upon (1) the purpose of study, (2) the manner in which such purpose is resolved, and

(3) the statistical methods and devices which are used. It is obviously impossible to submit such phenomena to laboratory test, and to encompass them in one all-embracing formula. Out of the myriad ways in which economic phenomena evidence themselves at a given time, and the multitude of changes which occur from time to time, all that students may do is to select a sample or samples, adopt methods of analysis suited to the ways in which problems concerning them are resolved, compare the results from sample to sample arising from the use of a given method, and from different methods for the same sample, and modestly formulate such generalizations as seem to be justified. Confidence in the significance of one's results varies directly with their independence of method, of the samples to which they apply, and of the times to which they relate. But confidence must of necessity be relative. Economic processes are not cast in a mold. Accordingly, whatever the uniformities, tendencies, and trends which are discovered may be, they are relevant to time, place, and condition—a fact which the careful student should always be at pains to make clear. It is hoped that the writer in this case has not been unmindful of this canon of thoughtful study.

APPENDIX

CHARTS AND TABLES

CHART 96

Areas of California as Defined by the Federal Reserve Bank of San Francisco, Together with Certain Consolidations

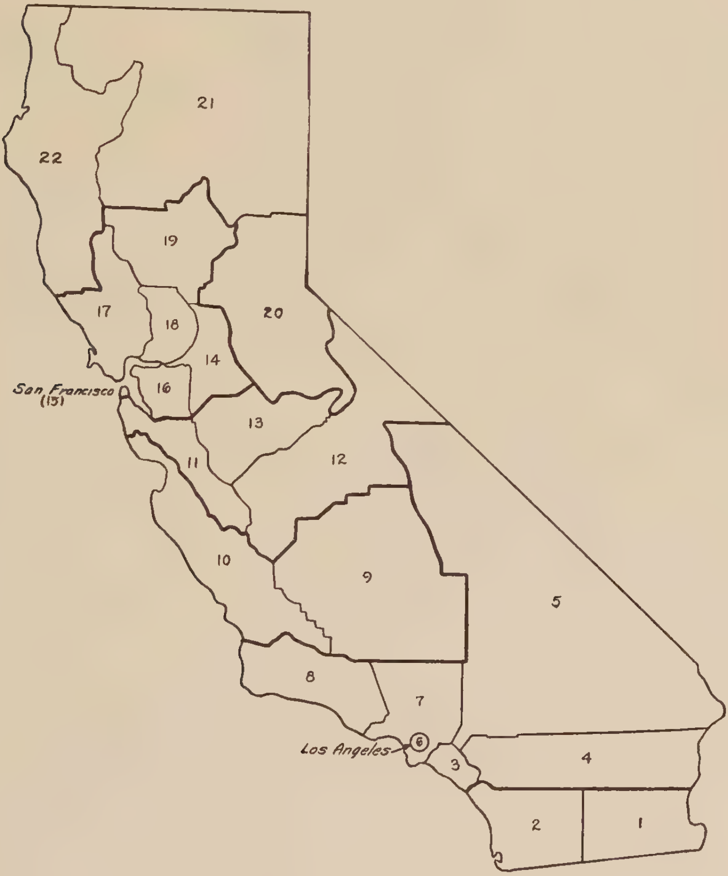


CHART 97

Areas of California as Defined by the Bank of Italy

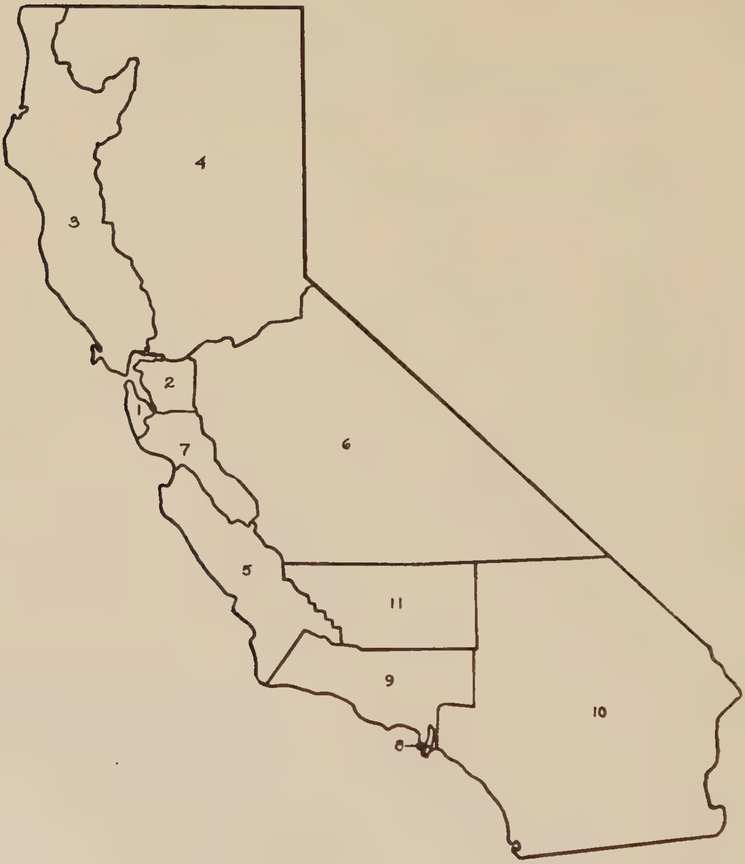


CHART 98

Regression of Ratios of Gross Earnings to Earning Assets for Member Banks in the Twelfth Federal Reserve District, 1925 to 1927, by States

(Arrayed in 1925—same banks each year)

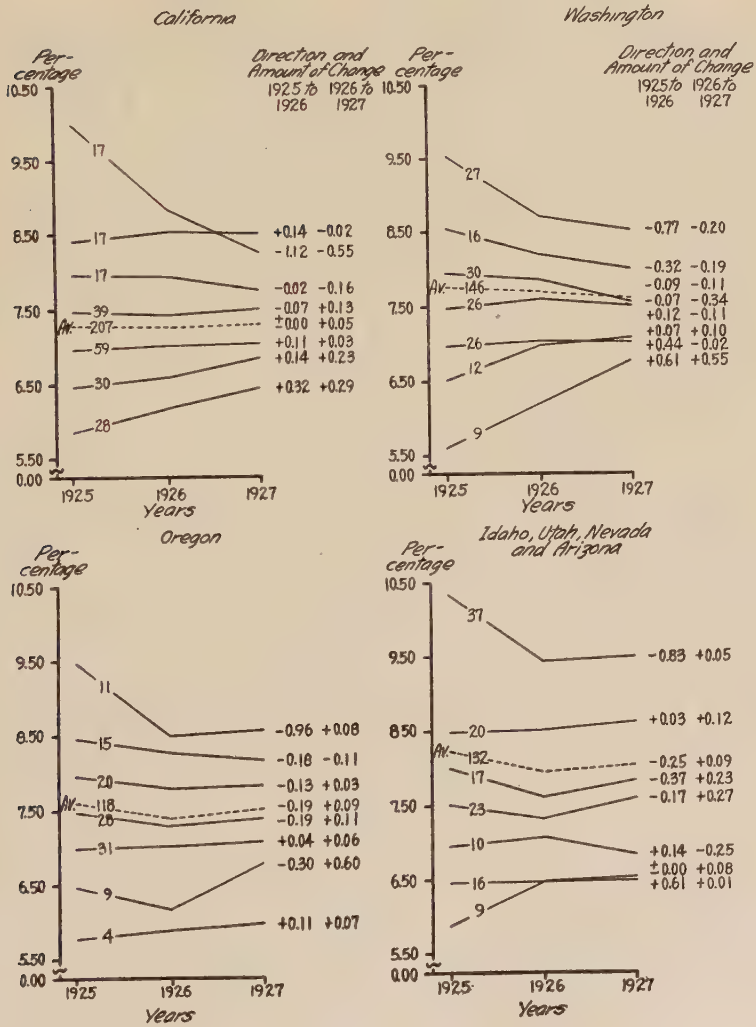


CHART 99

Regression of Ratios of Total Expense to Earning Assets for Member Banks in the Twelfth Federal Reserve District, 1925 to 1927, by States

(Arrayed in 1925—same banks each year)

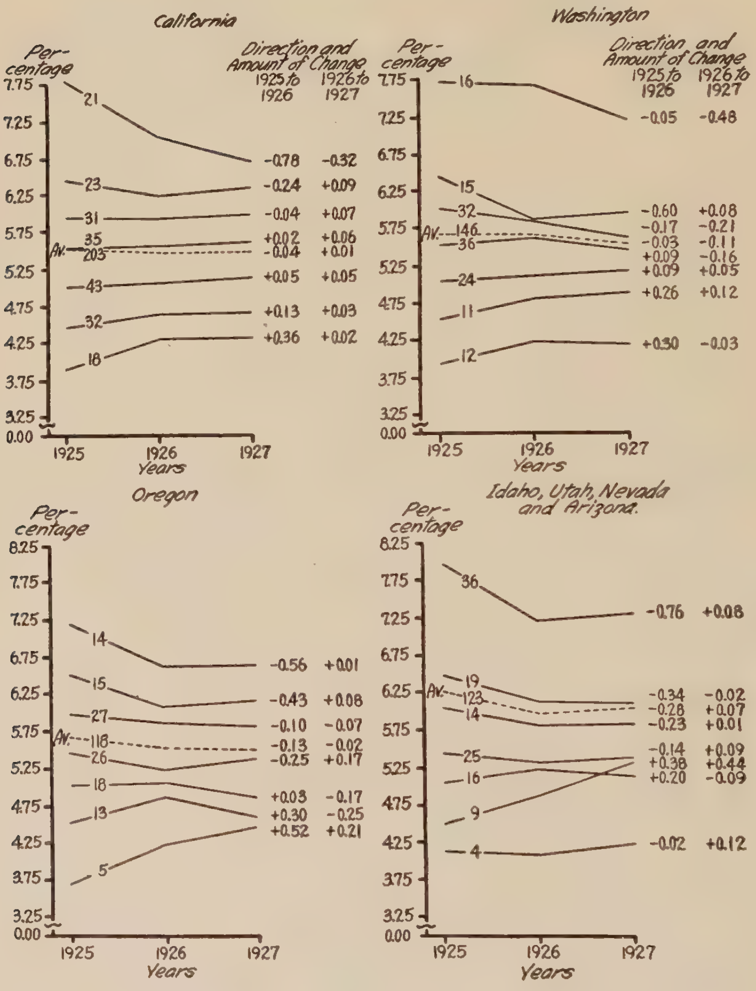


CHART 100

Regression of Ratios of Net Earnings to Earning Assets for Member Banks in the Twelfth Federal Reserve District, 1925 to 1927, by States

(Arrayed in 1925—same banks each year)

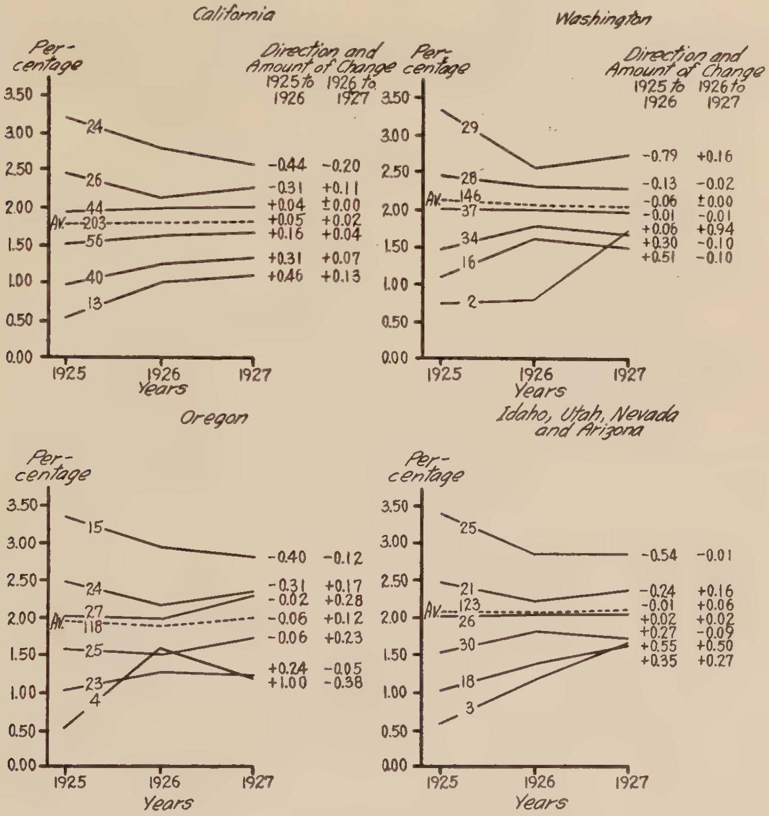
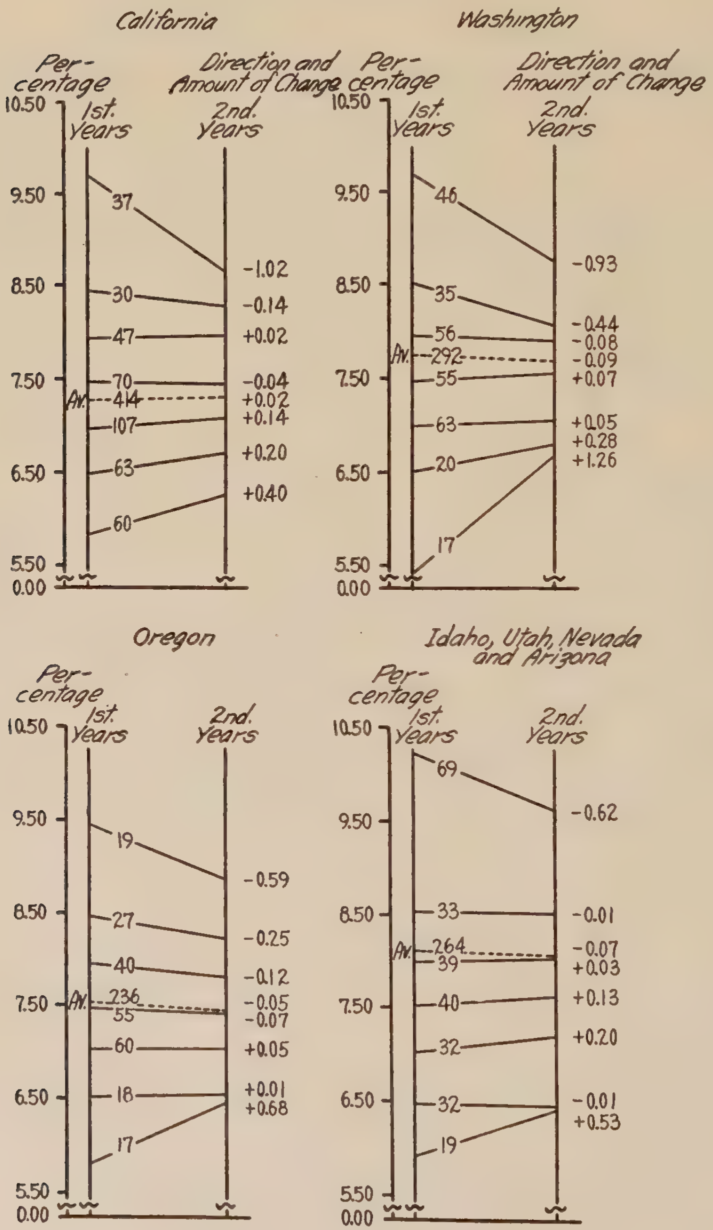


CHART 101

Regression of Ratios of Gross Earnings to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for Member Banks in the Twelfth Federal Reserve District, by States



California

Washington

Oregon

Idaho, Utah, Nevada and Arizona

CHART 102

REGRESSION OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS FROM YEAR TO YEAR FOR ALL PAIRS OF YEARS, 1925 TO 1927, FOR MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES

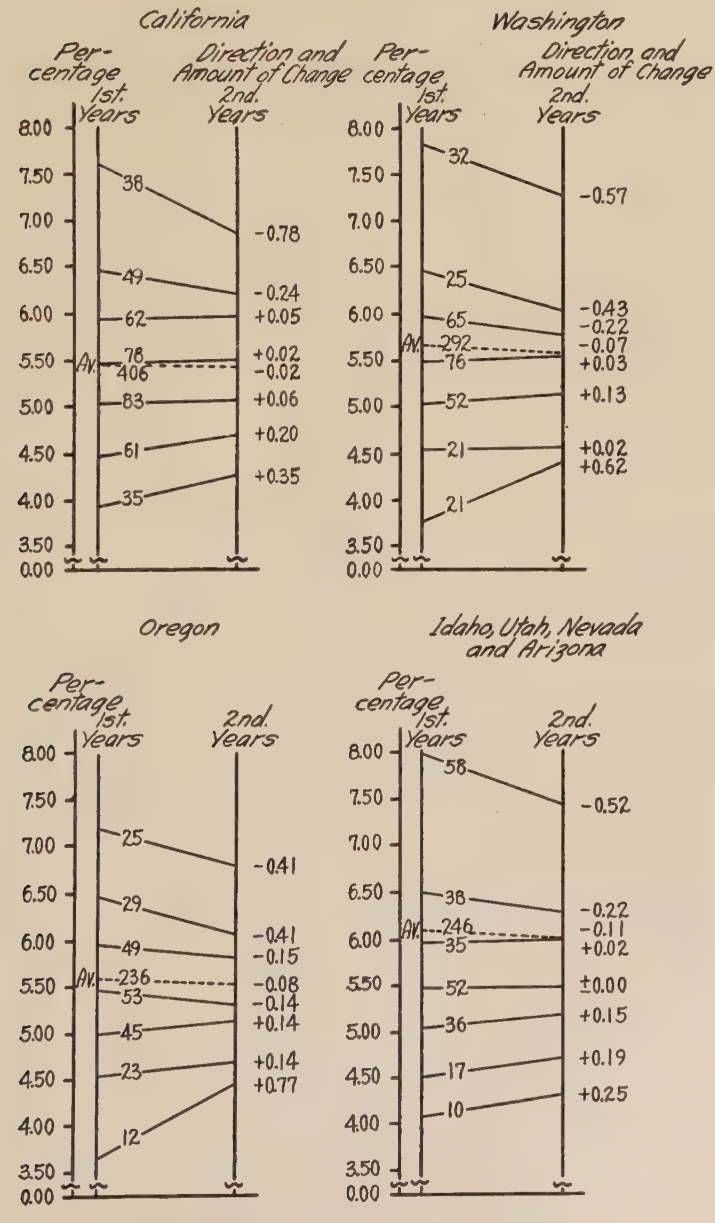


CHART 103

Regression of Ratios of Net Earnings to Earning Assets from Year to Year for All Pairs of Years, 1925 to 1927, for Member Banks in the Twelfth Federal Reserve District, by States

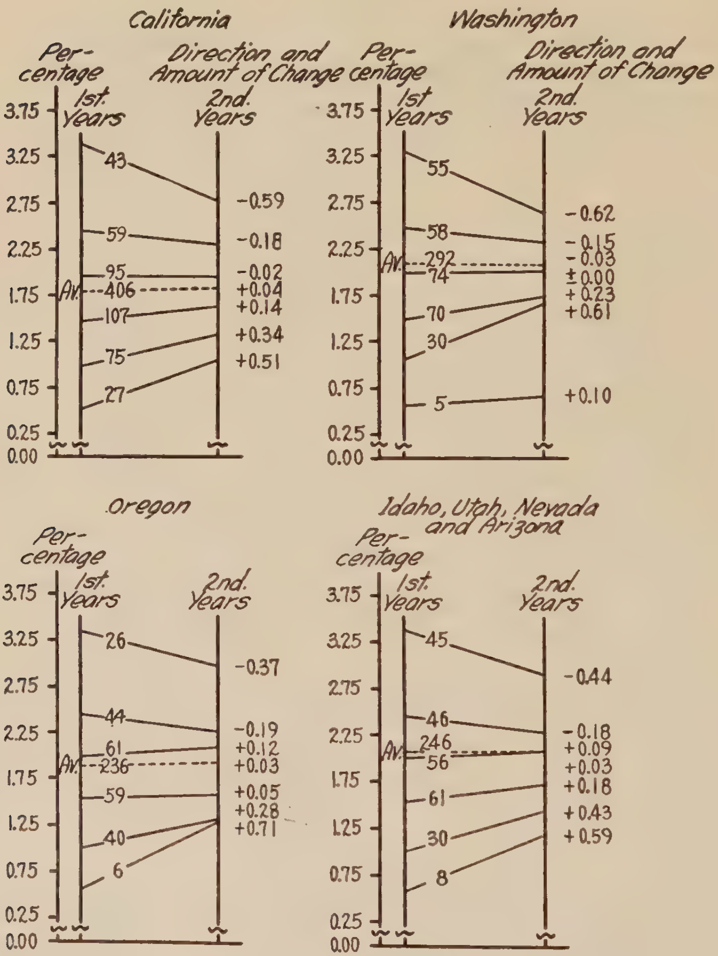


CHART 104

Regression of Ratios of Gross Earnings to Earning Assets for "Second Years," 1926 and 1927, on Those for "First Years," 1925 and 1926, for Oregon and for Idaho, Utah, Nevada, and Arizona Member Banks

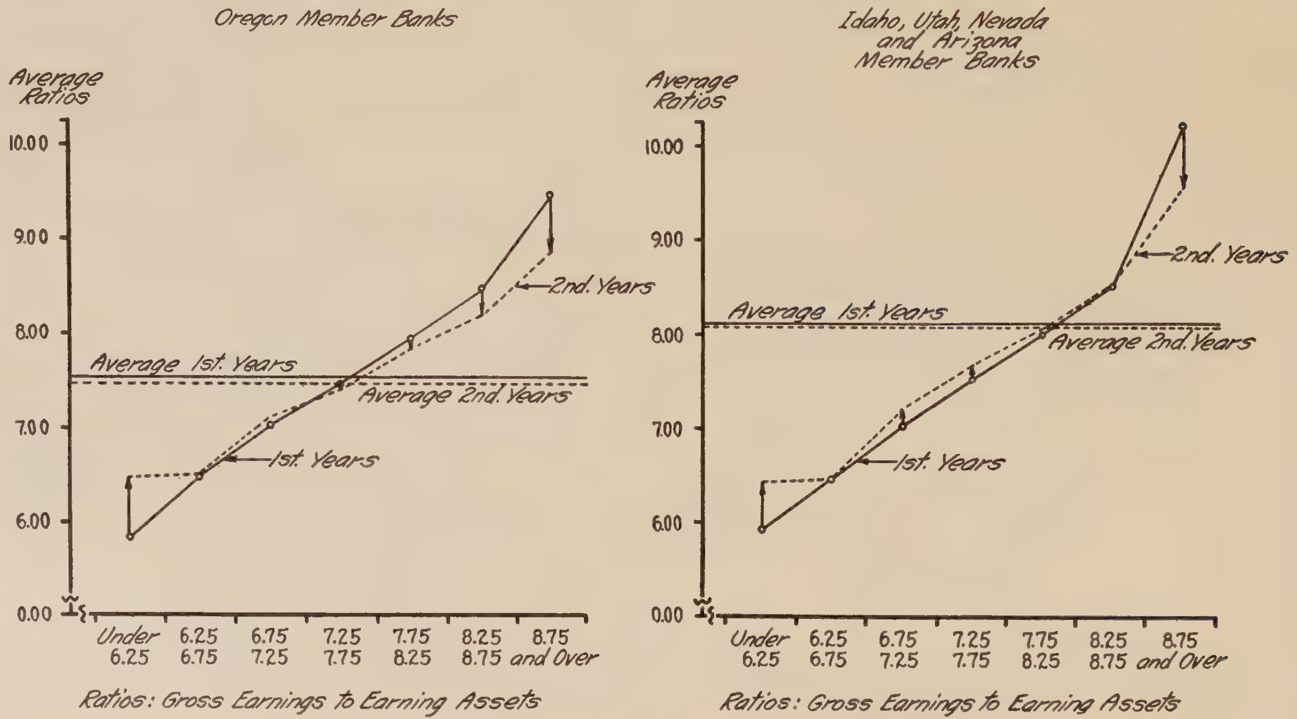


CHART 105

REGRESSION OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS FOR "SECOND YEARS," 1926 AND 1927, ON THOSE FOR "FIRST YEARS," 1925 AND 1926, FOR OREGON AND FOR IDAHO, UTAH, NEVADA, AND ARIZONA MEMBER BANKS

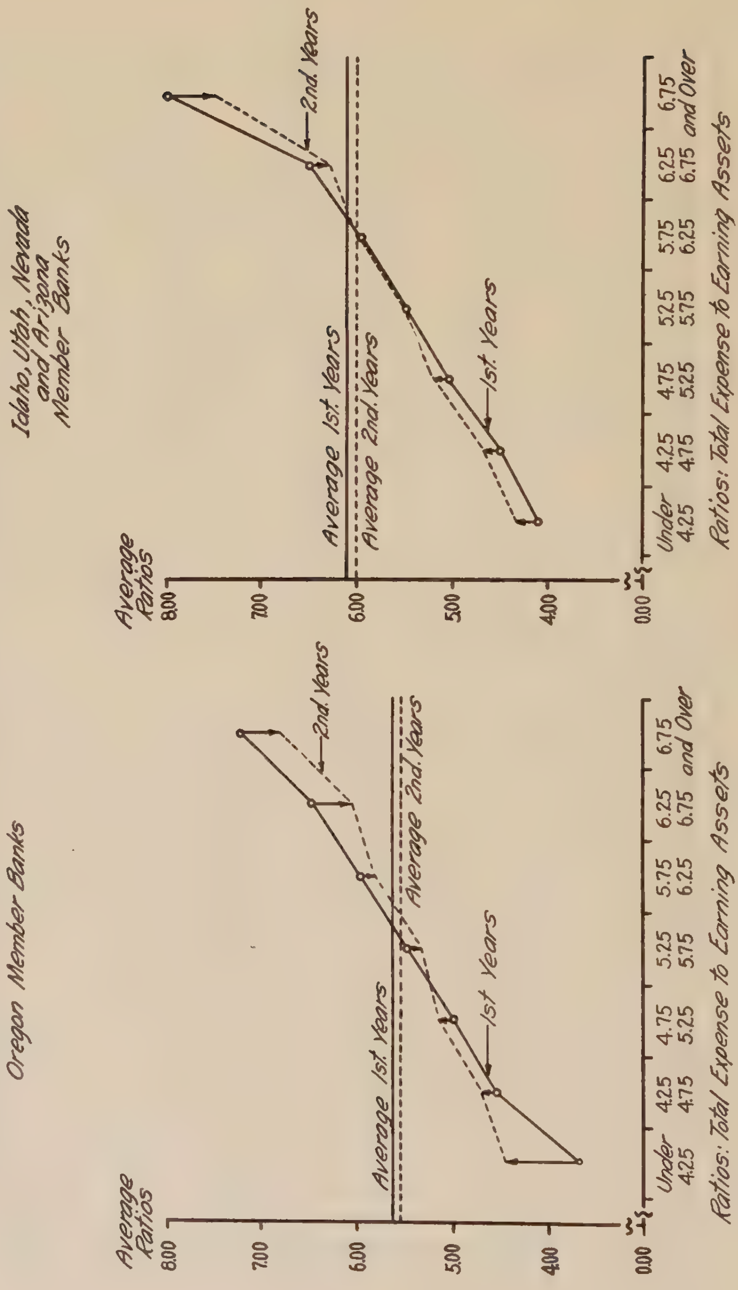


CHART 106

Regression of Ratios of Net Earnings to Earning Assets for "Second Years," 1926 and 1927, on Those for "First Years," 1925 and 1926, for Oregon and for Idaho, Utah, Nevada, and Arizona Member Banks

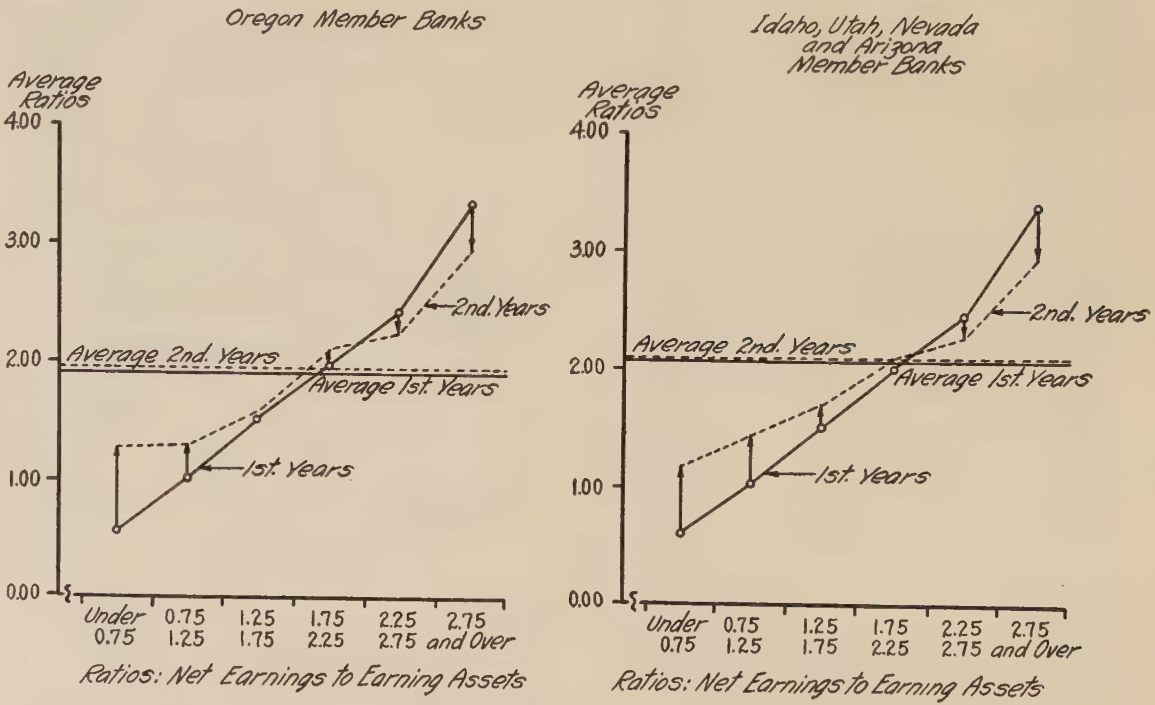


CHART 107

COMPARATIVE COEFFICIENTS OF DISPERSION BASED ON THE AVERAGE DEVIATION OF RATIOS OF GROSS EARNINGS TO EARNING ASSETS, FOR OREGON AND FOR ARIZONA, NEVADA, UTAH, AND IDAHO MEMBER BANKS

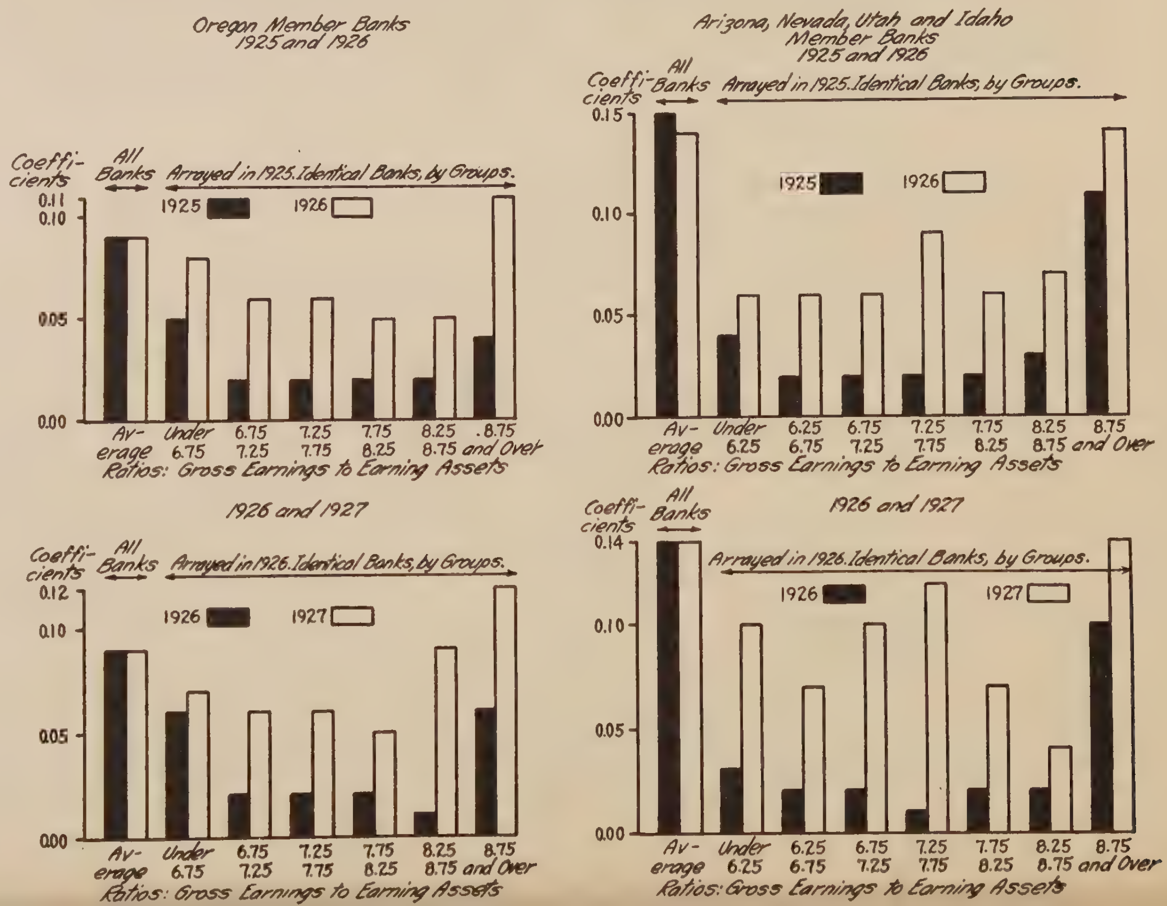


CHART 108

COMPARATIVE COEFFICIENTS OF DISPERSION BASED ON THE AVERAGE DEVIATION OF RATIOS OF TOTAL EXPENSE TO EARNING ASSETS, FOR CALIFORNIA AND FOR WASHINGTON MEMBER BANKS

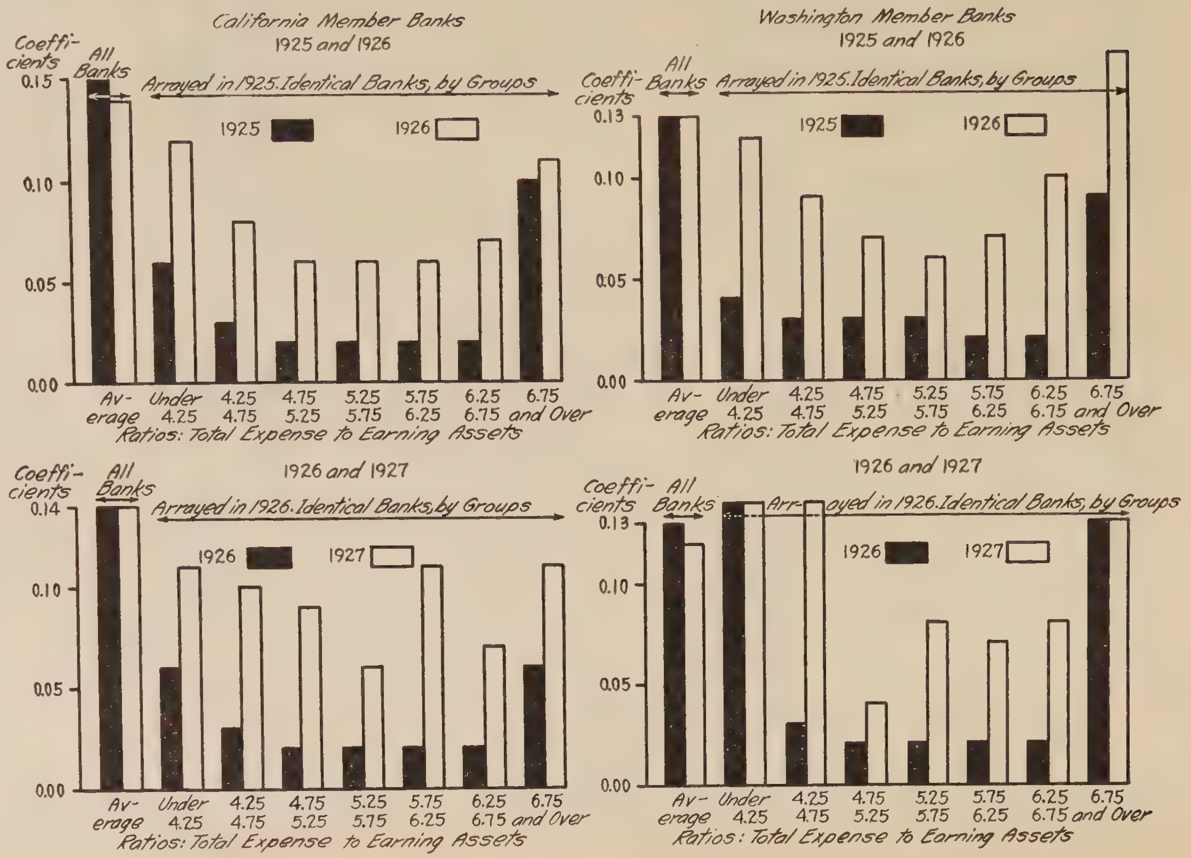


CHART 109

Comparative Coefficients of Dispersion Based on the Average Deviation of Ratios of Total Expense to Earning Assets, for Oregon and for Arizona, Nevada, Utah, and Idaho Member Banks

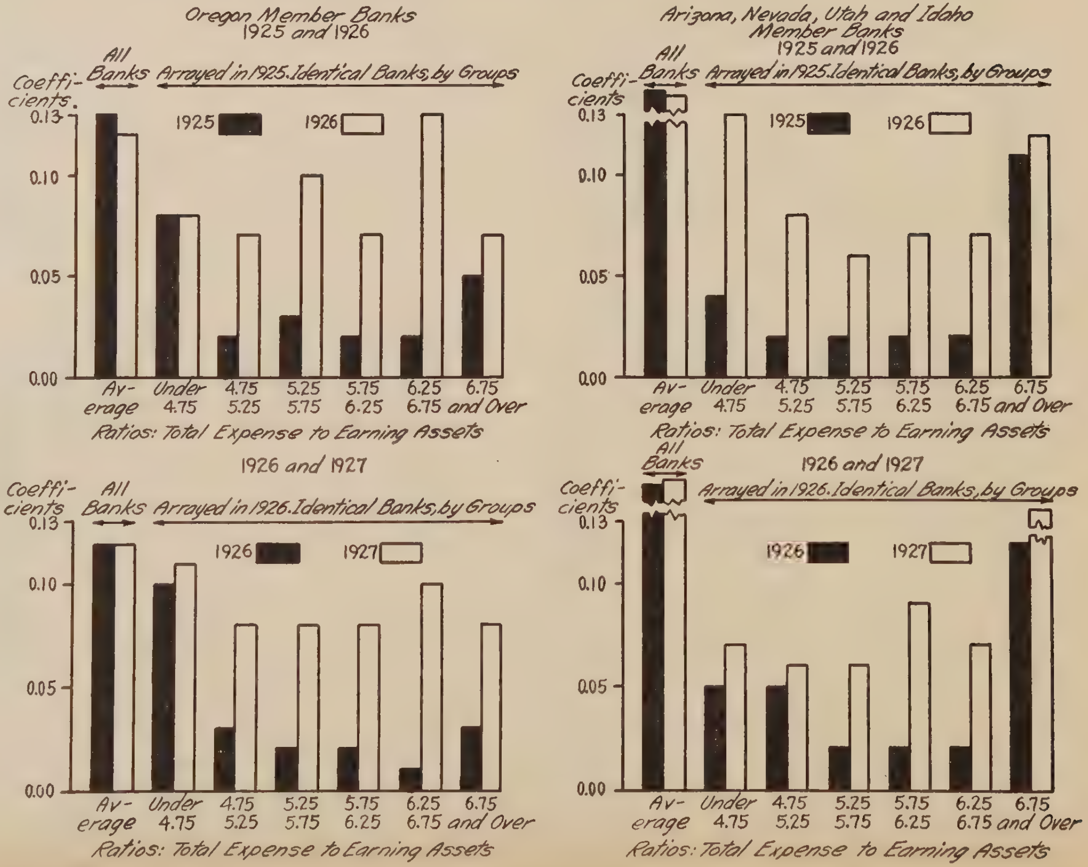
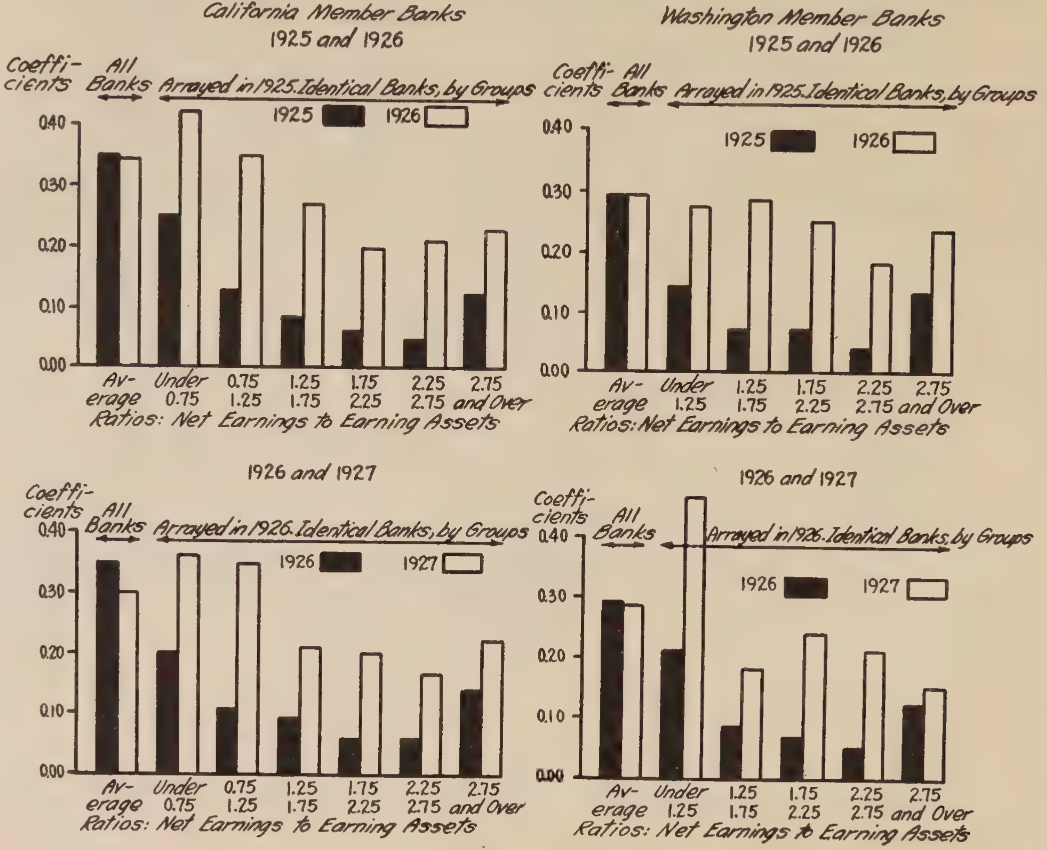


CHART 110

COMPARATIVE COEFFICIENTS OF DISPERSION BASED ON THE AVERAGE DEVIATION OF RATIOS OF NET EARNINGS TO EARNING ASSETS, FOR CALIFORNIA AND FOR WASHINGTON MEMBER BANKS



California Member Banks
1925 and 1926

Washington Member Banks
1925 and 1926

1926 and 1927

1926 and 1927

CHART 111

Comparative Coefficients of Dispersion Based on the Average Deviation of Ratios of Net Earnings to Earning Assets, for Oregon and for Idaho, Utah, Nevada, and Arizona Member Banks

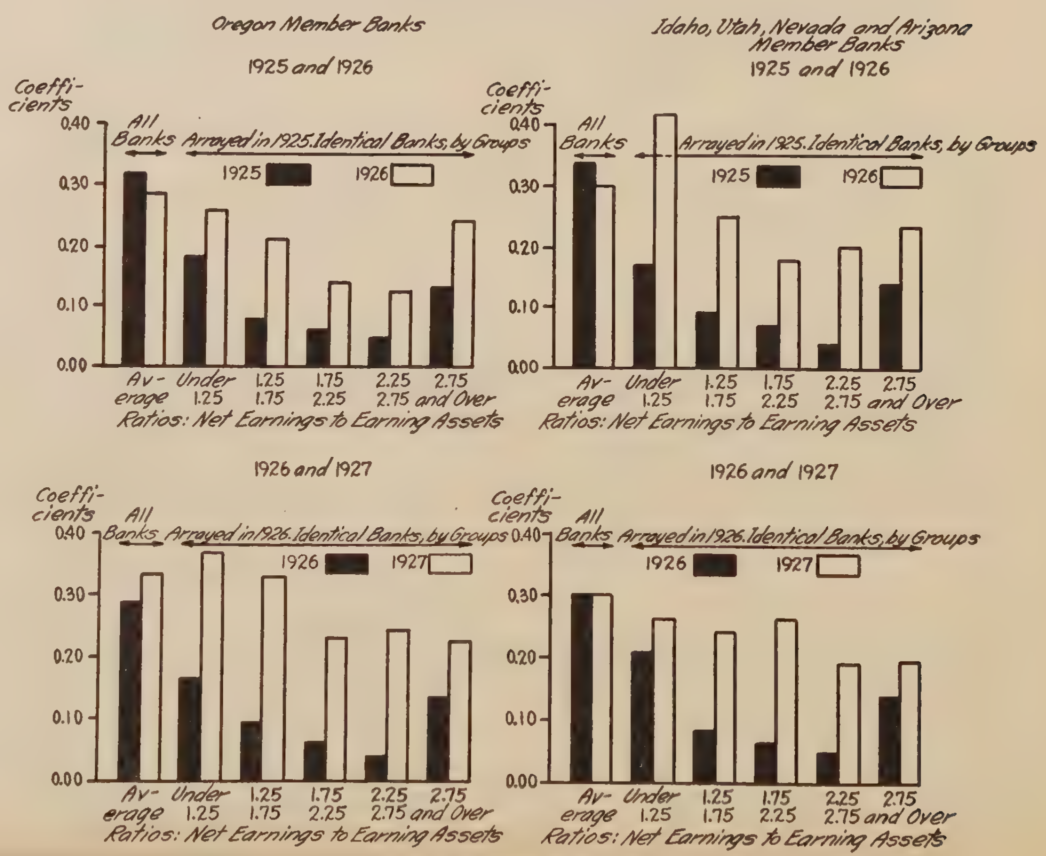


CHART 112

Regression of Year-to-year Directions of Change in Ratios of Total Expense to Earning Assets for Member Banks in the Twelfth Federal Reserve District, by States, 1925 to 1927

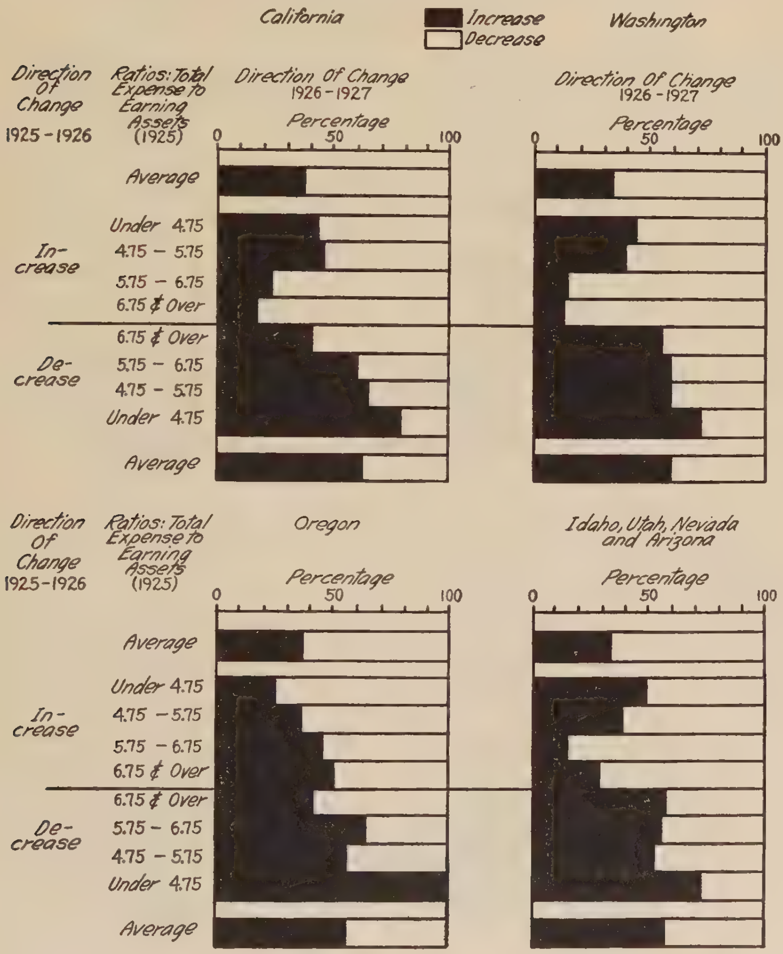


CHART 113

REGRESSION OF YEAR-TO-YEAR DIRECTIONS OF CHANGE IN RATIOS OF NET EARNINGS TO EARNING ASSETS FOR MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES, 1925 TO 1927

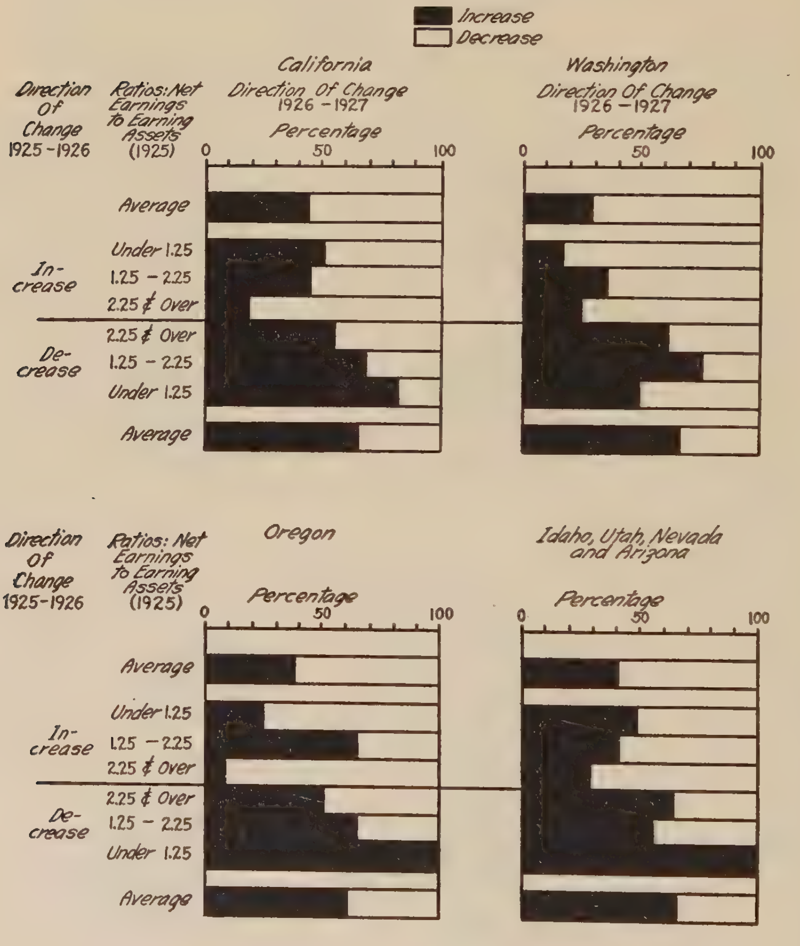
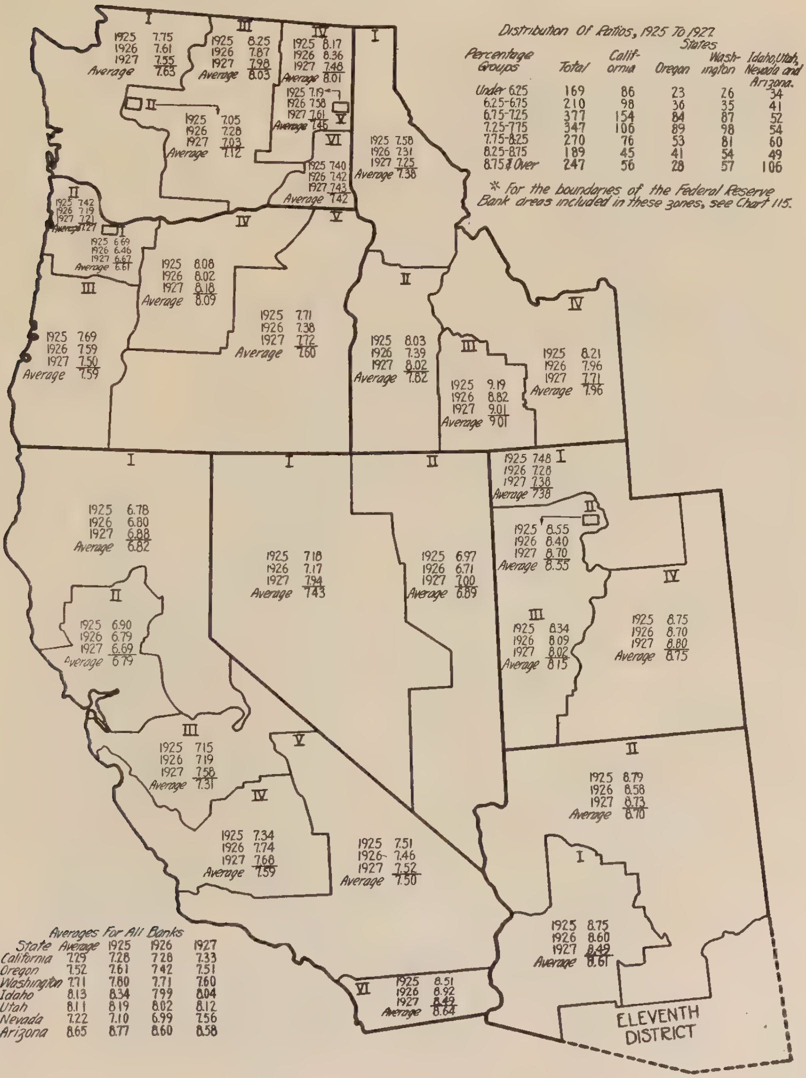


CHART 114

AVERAGE RATIOS OF GROSS EARNINGS TO EARNING ASSETS, 1925 TO 1927, FOR ALL MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES AND ZONES*

(Based on data for banks reporting all three years)



Distribution Of Ratios, 1925 To 1927

Percentage Groups	Total	California	Oregon	Washington	Idaho, Utah, Nevada and Arizona.
		States			
Under 6.25	169	86	23	26	34
6.25-6.75	210	98	36	35	41
6.75-7.25	377	154	84	87	52
7.25-7.75	347	106	89	98	54
7.75-8.25	270	76	53	81	60
8.25-8.75	189	45	41	54	49
8.75 & Over	247	56	28	57	106

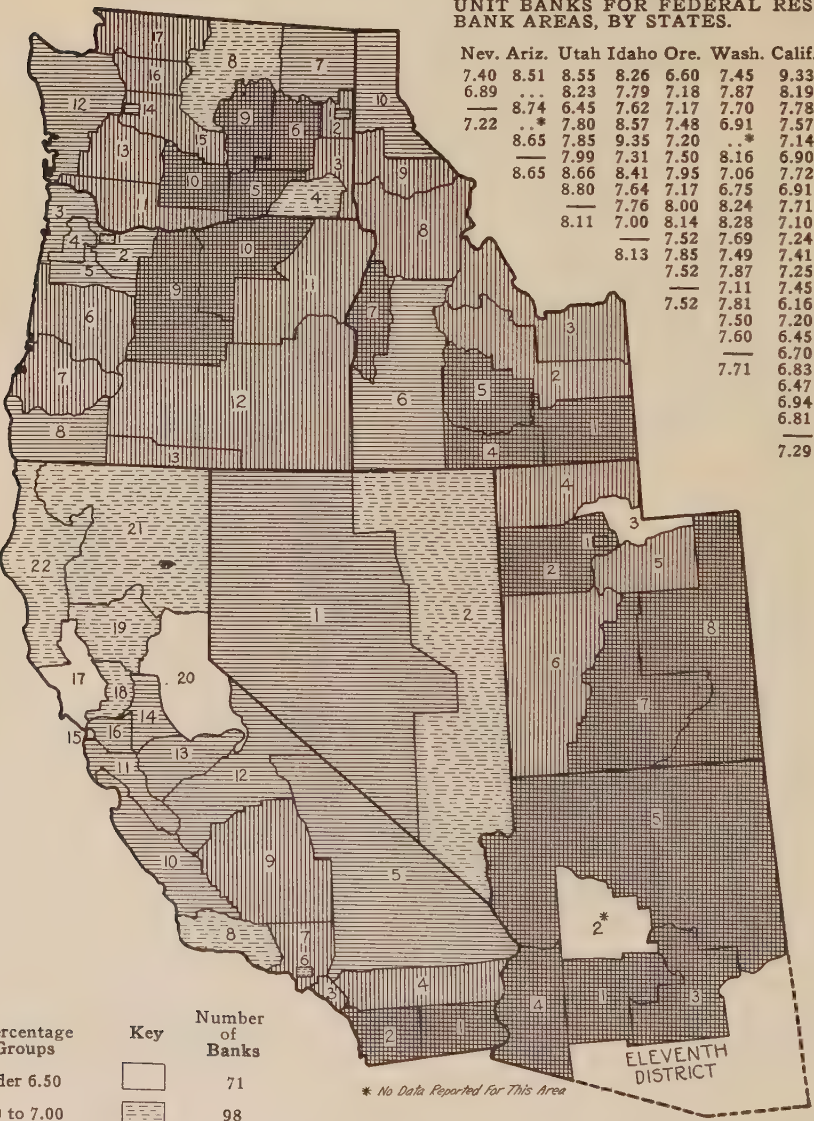
* For the boundaries of the Federal Reserve Bank areas included in these zones, see Chart 115.

Averages For All Banks

State	Average	1925	1926	1927
California	7.29	7.28	7.28	7.33
Oregon	7.52	7.61	7.42	7.51
Washington	7.71	7.80	7.71	7.60
Idaho	8.13	8.34	7.99	8.04
Utah	8.11	8.19	8.02	8.12
Nevada	7.22	7.10	6.99	7.56
Arizona	8.65	8.77	8.60	8.58

CHART 115

Ratios of Gross Earnings to Earning Assets for Unit Member Banks in the Twelfth Federal Reserve District, by States and Zones, 1925–1927



AVERAGE RATIOS: GROSS EARNINGS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS FOR FEDERAL RESERVE BANK AREAS, BY STATES.

Nev.	Ariz.	Utah	Idaho	Ore.	Wash.	Calif.	Areas
7.40	8.51	8.55	8.26	6.60	7.45	9.33	1
6.89	...	8.23	7.79	7.18	7.87	8.19	2
—	8.74	6.45	7.62	7.17	7.70	7.78	3
7.22	..*	7.80	8.57	7.48	6.91	7.57	4
	8.65	7.85	9.35	7.20	..*	7.14	5
	—	7.99	7.31	7.50	8.16	6.90	6
	8.65	8.66	8.41	7.95	7.06	7.72	7
		8.80	7.64	7.17	6.75	6.91	8
		—	7.76	8.00	8.24	7.71	9
		8.11	7.00	8.14	8.28	7.10	10
			—	7.52	7.69	7.24	11
			8.13	7.85	7.49	7.41	12
				7.52	7.87	7.25	13
				—	7.11	7.45	14
				7.52	7.81	6.16	15
					7.50	7.20	16
					7.60	6.45	17
					—	6.70	18
					7.71	6.83	19
						6.47	20
						6.94	21
						6.81	22
						—	
						7.29	Av.

* *No Data Reported For This Area*

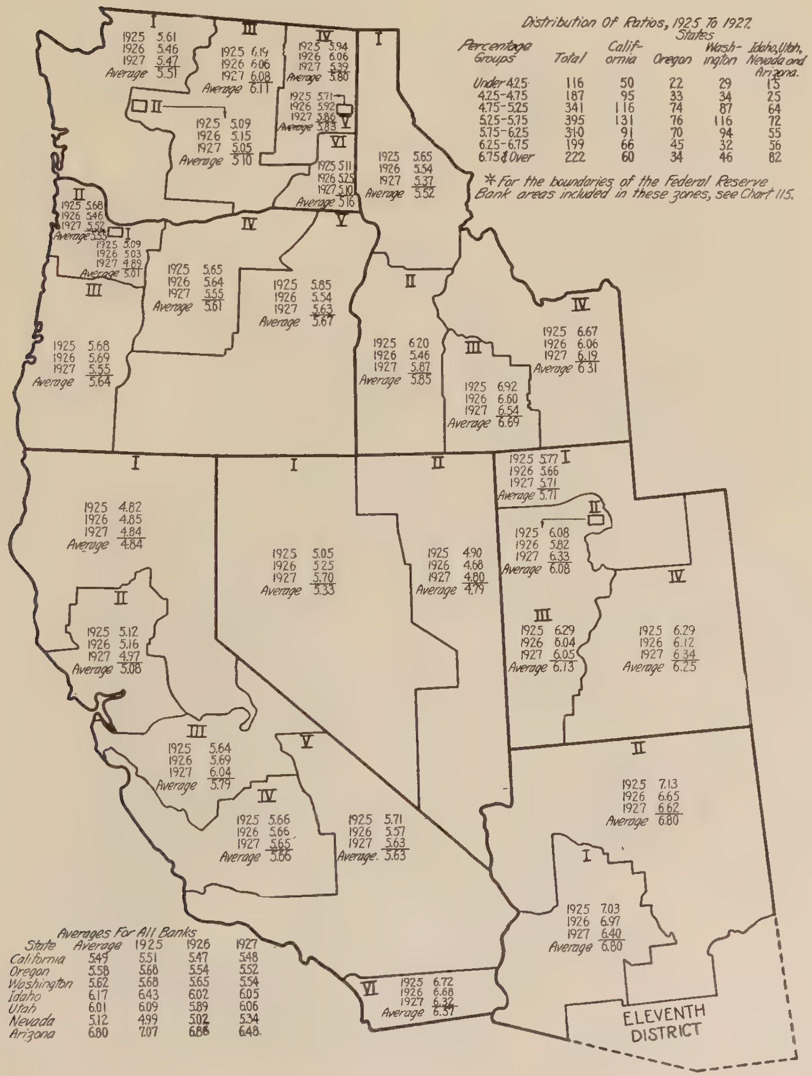
Percentage Groups	Key	Number of Banks
Under 6.50	☐	71
6.50 to 7.00	▤	98
7.00 to 7.50	▤	127
7.50 to 8.00	▥	102
8.00 and Over	▦	182

* Too few cases to report separately.

CHART 116

AVERAGE RATIOS OF TOTAL EXPENSE TO EARNING ASSETS, 1925 TO 1927, FOR ALL MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES AND ZONES*

(Based on data for banks reporting all three years)



Distribution Of Ratios, 1925 To 1927.

Percentage Groups	Total	California	Oregon	Washington	Idaho, Utah, Nevada and Arizona.
		States			
Under 4.25	116	50	22	29	15
4.25–4.75	187	95	33	34	25
4.75–5.25	341	116	74	87	64
5.25–5.75	395	131	76	116	72
5.75–6.25	310	91	70	94	55
6.25–6.75	199	66	45	32	56
6.75 & Over	222	60	34	46	82

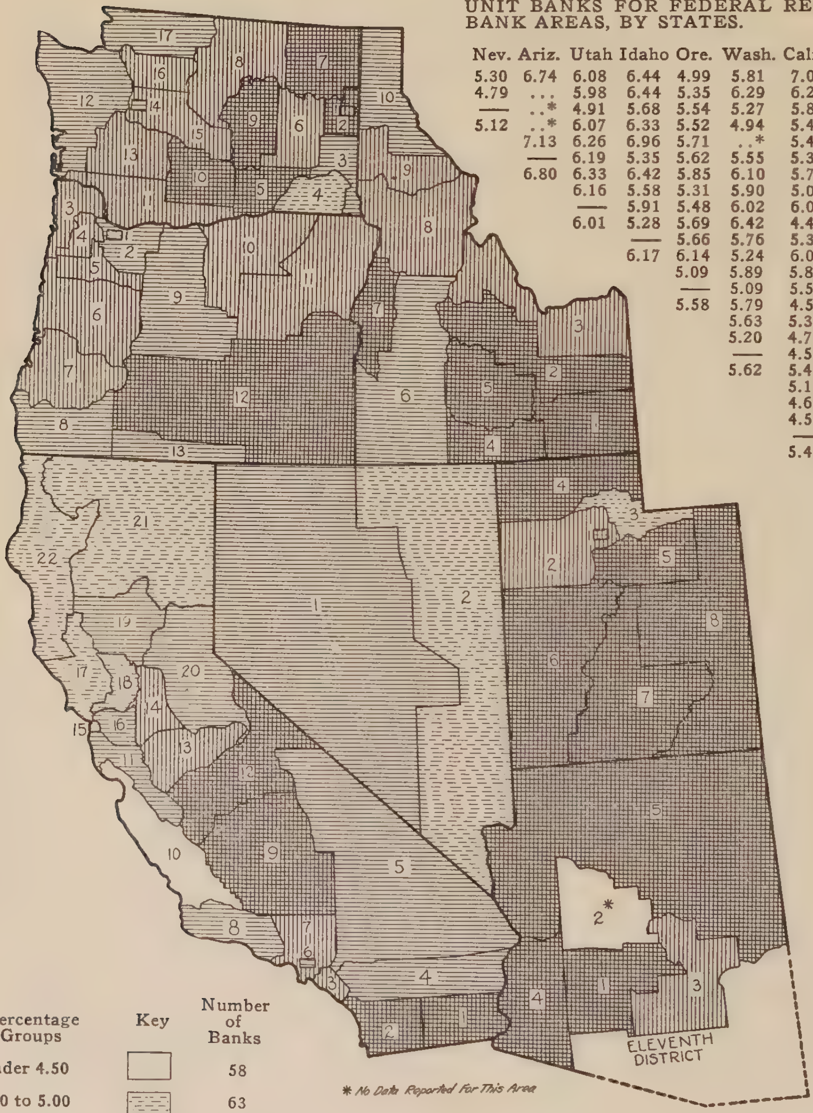
*For the boundaries of the Federal Reserve Bank areas included in these zones, see Chart 115.

Averages For All Banks

State	Average	1925	1926	1927
California	5.49	5.51	5.47	5.48
Oregon	5.58	5.68	5.54	5.52
Washington	5.62	5.68	5.65	5.54
Idaho	6.17	6.43	6.02	6.05
Utah	6.01	6.09	5.89	6.06
Nevada	5.12	4.99	5.02	5.34
Arizona	6.80	7.07	6.86	6.48.

CHART 117

Ratios of Total Expense to Earning Assets for Unit Member Banks in the Twelfth Federal Reserve District, by States and Zones, 1925–1927



AVERAGE RATIOS: TOTAL EXPENSE TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS FOR FEDERAL RESERVE BANK AREAS, BY STATES.

Nev.	Ariz.	Utah	Idaho	Ore.	Wash.	Calif.	Areas
5.30	6.74	6.08	6.44	4.99	5.81	7.05	1
4.79	...	5.98	6.44	5.35	6.29	6.26	2
—	..*	4.91	5.68	5.54	5.27	5.88	3
5.12	..*	6.07	6.33	5.52	4.94	5.45	4
	7.13	6.26	6.96	5.71	..*	5.44	5
	—	6.19	5.35	5.62	5.55	5.35	6
	6.80	6.33	6.42	5.85	6.10	5.75	7
		6.16	5.58	5.31	5.90	5.02	8
		—	5.91	5.48	6.02	6.06	9
		6.01	5.28	5.69	6.42	4.46	10
			—	5.66	5.76	5.39	11
			6.17	6.14	5.24	6.06	12
				5.09	5.89	5.83	13
				—	5.09	5.55	14
				5.58	5.79	4.51	15
					5.63	5.37	16
					5.20	4.77	17
					—	4.56	18
					5.62	5.46	19
						5.12	20
						4.63	21
						4.57	22
						—	
						5.49	Av.

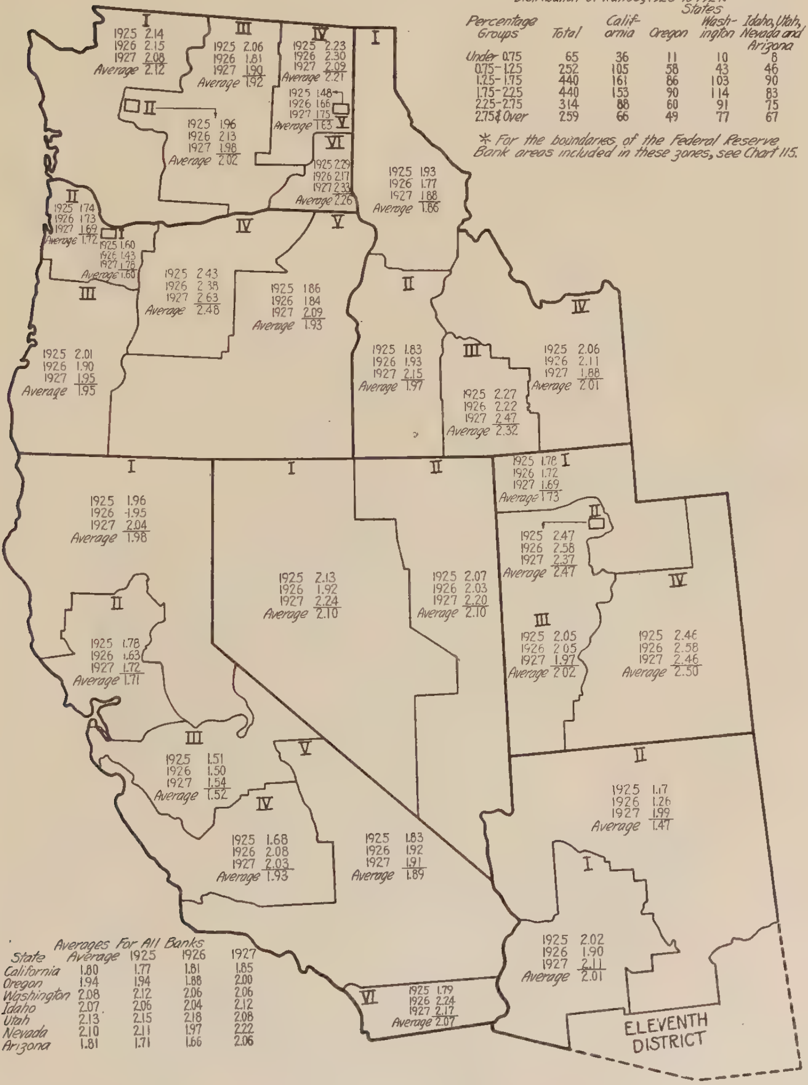
Percentage Groups	Key	Number of Banks
Under 4.50	□	58
4.50 to 5.00	▭	63
5.00 to 5.50	▤	138
5.50 to 6.00	▥	136
6.00 and Over	▦	173

* No Data Reported For This Area

* Too few cases to report separately.

CHART 118

Average Ratios of Net Earnings to Earning Assets, 1925 to 1927, for All Member Banks in the Twelfth Federal Reserve District, by States and Zones*


I 1925 2.14 1926 2.15 1927 2.08 Average 2.12
III 1925 2.06 1926 1.81 1927 1.90 Average 1.92
IV 1925 2.23 1926 2.30 1927 2.09 Average 2.21
I 1925 1.93 1926 1.77 1927 1.88 Average 1.86
II 1925 1.96 1926 2.13 1927 1.98 Average 2.02
V 1925 1.48 1926 1.66 1927 1.75 Average 1.63
VI 1925 2.29 1926 2.17 1927 2.33 Average 2.26
II 1925 1.74 1926 1.73 1927 1.69 Average 1.72
I 1925 1.60 1926 1.43 1927 1.78 Average 1.60
IV 1925 2.43 1926 2.38 1927 2.63 Average 2.48
V 1925 1.86 1926 1.84 1927 2.09 Average 1.93
III 1925 2.01 1926 1.90 1927 1.95 Average 1.95
II 1925 1.83 1926 1.93 1927 2.15 Average 1.97
III 1925 2.27 1926 2.22 1927 2.47 Average 2.32
IV 1925 2.06 1926 2.11 1927 1.88 Average 2.01
I 1925 1.96 1926 -1.95 1927 2.04 Average 1.98
I 1925 2.13 1926 1.92 1927 2.24 Average 2.10
II 1925 2.07 1926 2.03 1927 2.20 Average 2.10
I 1925 1.78 1926 1.72 1927 1.69 Average 1.73
II 1925 2.47 1926 2.58 1927 2.37 Average 2.47
II 1925 1.78 1926 1.63 1927 1.72 Average 1.71
III 1925 2.05 1926 2.05 1927 1.97 Average 2.02
IV 1925 2.46 1926 2.58 1927 2.46 Average 2.50
III 1925 1.51 1926 1.50 1927 1.54 Average 1.52
V
IV 1925 1.68 1926 2.08 1927 2.03 Average 1.93
1925 1.83 1926 1.92 1927 1.91 Average 1.89
II 1925 1.17 1926 1.26 1927 1.99 Average 1.47
I 1925 2.02 1926 1.90 1927 2.11 Average 2.01
VI 1925 1.79 1926 2.24 1927 2.17 Average 2.07
ELEVENTH DISTRICT

Distribution Of Ratios, 1925 To 1927.

Percentage Groups	Total	States California	Oregon	Washington	Idaho, Utah, Nevada and Arizona
Under 0.75	65	36	11	10	8
0.75–1.25	252	105	58	43	46
1.25–1.75	440	161	86	103	90
1.75–2.25	440	153	90	114	83
2.25–2.75	314	88	60	91	75
2.75 & Over	259	66	49	77	67

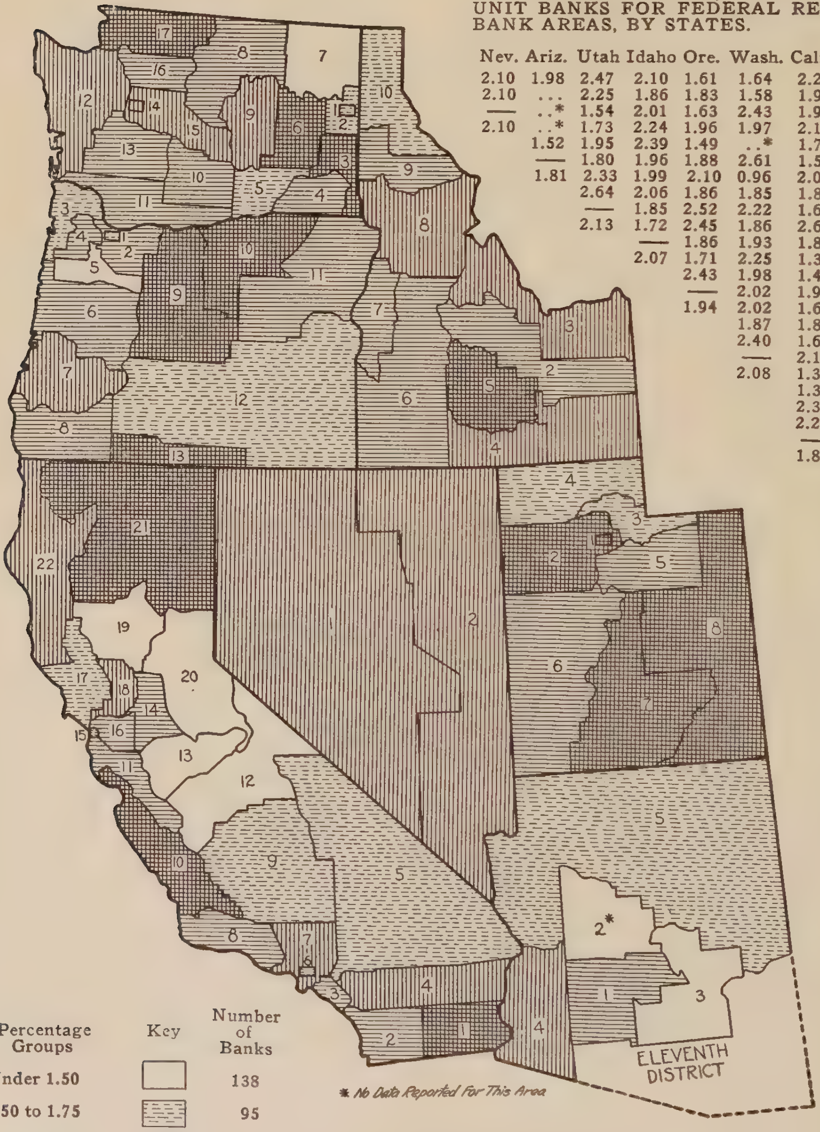
* For the boundaries of the Federal Reserve Bank areas included in these zones, see Chart 115.

Averages For All Banks

State	Average	1925	1926	1927
California	1.80	1.77	1.81	1.85
Oregon	1.94	1.94	1.88	2.00
Washington	2.08	2.12	2.06	2.06
Idaho	2.07	2.06	2.04	2.12
Utah	2.13	2.15	2.18	2.08
Nevada	2.10	2.11	1.97	2.22
Arizona	1.81	1.71	1.66	2.06

CHART 119

Ratios of Net Earnings to Earning Assets for Unit Member Banks in the Twelfth Federal Reserve District, by States and Zones, 1925–1927



AVERAGE RATIOS: NET EARNINGS TO EARNING ASSETS, 1925–1927, FOR UNIT BANKS FOR FEDERAL RESERVE BANK AREAS, BY STATES.

Nev.	Ariz.	Utah	Idaho	Ore.	Wash.	Calif.	Areas
2.10	1.98	2.47	2.10	1.61	1.64	2.29	1
2.10	. . .	2.25	1.86	1.83	1.58	1.93	2
—	. .*	1.54	2.01	1.63	2.43	1.93	3
2.10	. .*	1.73	2.24	1.96	1.97	2.17	4
	1.52	1.95	2.39	1.49	. .*	1.70	5
	—	1.80	1.96	1.88	2.61	1.55	6
	1.81	2.33	1.99	2.10	0.96	2.01	7
		2.64	2.06	1.86	1.85	1.89	8
		—	1.85	2.52	2.22	1.65	9
		2.13	1.72	2.45	1.86	2.64	10
			—	1.86	1.93	1.85	11
			2.07	1.71	2.25	1.35	12
				2.43	1.98	1.42	13
				—	2.02	1.90	14
				1.94	2.02	1.65	15
					1.87	1.83	16
					2.40	1.69	17
					—	2.14	18
					2.08	1.38	19
						1.36	20
						2.31	21
						2.24	22
						—	
						1.80	Av.

Percentage Groups	Key	Number of Banks
Under 1.50	☐	138
1.50 to 1.75	▨	95
1.75 to 2.00	▤	82
2.00 to 2.25	▥	91
2.25 and Over	▦	162

* Too few cases to report separately.

TABLE 79

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—LOANS AND DISCOUNTS TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS IN NATIONAL BANKS IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under – 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over	No. of City Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	10.00 and over	4	..	1	2	1	1	2	1	1	1	..	1	15	+13.46	+14.46
	7.50–10.00	2	1	2	2	1	3	4	3	..	1	..	..	19	+ 8.37	+ 9.28
	5.00–7.50	4	..	2	2	4	6	4	..	3	3	1	1	30	+ 6.04	+ 3.33
	2.50–5.00	3	1	1[la]	8[sf]	6	11[sf]	13[o]	6	4	2	..	2	57	+ 3.53	+ 1.54
	Under 2.50	4[sf]	1	2	5	9	14[sf,o,la]	15	13[o]	1	2	2	1	69	+ 1.29	+ 2.26
Below the Average	Under 2.50	..	3	1	4[o]	13[la]	14[o]	16[la]	15[la]	11	3	..	1	81	— 1.14	— 2.12
	2.50–5.00	2	1	1	..	3	11	13	17[o]	4	1	1[sf]	..	54	— 3.66	— 3.11
	5.00–7.50	2	1	..	3	2	5	7	3	4	3	..	..	30	— 6.20	+ 0.87
	7.50–10.00	2	..	..	1	..	2	5	3	4	1	..	..	18	— 8.87	— 1.89
	10.00 and over	..	..	..	1	2	2	..	2	1	1	1	1	11	—14.68	— 7.51
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+52.78	+33.14	+26.04	+17.50	+11.03	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			
	Ratios: Loans and Discounts to Earning Assets (Net)	+3.11	—0.11	+5.52	+1.58	—0.17	+0.11	—0.05	—1.27	—1.39	—0.89	—1.07	+1.27			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 80

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(*Percentage Differences from the Yearly Averages of All Banks*)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	..	..	1	1	+50.00	—19.00
	40.00–50.00	..	..	..	..	..	..	1	2	1	..	4		
	30.00–40.00	..	..	1	7	7	12	11	1	3	..	42	+30.00	+ 5.21
	20.00–30.00	1	3	2	6	17	31	26	11	1	..	98		
	10.00–20.00	1	1	4	7	13	45	53	29	3	..	156	+10.00	+ 0.80
	Under 10.00	1	1	4	7	23	24	51	20	6	..	137		
Below the Average	Under 10.00	..	2	..	8	19	27	42	20	6	1	125	—10.00	— 0.75
	10.00–20.00	..	..	1	4	8	26	31	20	3	1	94		
	20.00–30.00	2	..	..	1	5	13	26	20	2	..	69	—30.00	— 4.06
	30.00–40.00	..	..	..	1	4	2	3	16	1	..	27		
	40.00–50.00	..	..	1	2	..	2	6	4	5	1	21	—50.00	— 5.22
	50.00 and over	..	..	1	2	4	8	3	7	5	..	25		
Total	No. of Bank-Years	5	7	14	45	100	185	253	150	36	4	799 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+ 6.67		+ 3.81		+ 3.84		— 2.05		—10.50				

TABLE 81

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)											Total		
		Number of Bank-Years												Average Percentage Differences	
		Above the Average						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	..	..	..	2	2	1	4	1	..	..	..	10	+45.00	+5.00
	30.00–40.00	1	..	2	3	9	14	7	3	2	1	1	43	+30.00	+3.23
	20.00–30.00	..	..	3	6	14	26	23	12	3	..	..	87		
	10.00–20.00	..	3	5	4	18	36	48	19	6	..	..	139	+10.00	+1.49
	Under 10.00	2	..	4	11	23	34	53	23	7	..	..	157		
Below the Average	Under 10.00	..	2	..	6	17	32	49	27	4	2	..	139	—10.00	—1.50
	10.00–20.00	1	..	1	2	6	22	30	19	3	..	..	84		
	20.00–30.00	1	..	..	1	8	9	25	19	3	..	..	66	—30.00	—4.59
	30.00–40.00	..	..	..	..	6	3	5	16	2	..	..	32		
	40.00–50.00	..	..	1	2	1	3	6	4	2	1	..	20	—50.00	—3.81
	50.00 and over	..	..	1	2	3	2	2	7	5	..	..	22		
Total	No. of Bank-Years	5	5	17	39	107	182	252	150	37	4	1	799 / 799		
Total: Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—45.00			
	Ratios: Loans and Discounts to Earning Assets (Net)	+4.00		+5.36		+4.07		—2.64		—7.93		+35.00			

TABLE 82

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for National Unit Banks and National Banks with Branches in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	..	..	..	2	2	1	4	1	..	..	10	+45.00	+5.00
	30.00–40.00	1	..	2	3	9	14	7	3	2	..	41	+30.00	+4.13
	20.00–30.00	..	..	3	6	14	26	23	12	2	..	86		
	10.00–20.00	..	3	3	3	16	32	42	19	5	..	123	+10.00	+1.14
	Under 10.00	1	..	3	9	22	22	48	18	5	..	128		
Below the Average	Under 10.00	..	2	..	5	16	27	42	23	4	2	121	–10.00	–1.42
	10.00–20.00	1	..	1	2	5	22	28	19	2	..	80		
	20.00–30.00	1	..	..	1	6	6	22	19	3	..	58	–30.00	–5.00
	30.00–40.00	..	..	..	..	6	3	5	13	2	..	29		
	40.00–50.00	..	..	1	2	1	3	6	4	2	1	20	–50.00	–3.81
	50.00 and over	..	..	1	2	3	2	2	7	5	..	22		
Total	No. of Bank-Years	4	5	14	35	100	158	229	138	32	8	718 718		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		–10.00		–30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+3.89		+5.00		+4.61		–2.55		–11.29				

TABLE 83

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for State Unit Banks and State Banks with Branches in the Federal Reserve System in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)											Total		
		Number of Bank-Years											No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00		Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	30.00–40.00	..	..	..	..	..	..	..	..	..	1	1	2	+30.00	—35.00
	20.00–30.00	..	..	..	..	..	..	..	..	1	..	..	1		
	10.00–20.00	..	..	2	1	2	4	6	..	1	..	..	16	+10.00	+ 3.44
	Under 10.00	1	..	1	2	1	12	5	5	2	..	..	29		
Below the Average	Under 10.00	..	..	..	1	1	5	7	4	..	..	..	18	—10.00	— 2.27
	10.00–20.00	..	..	..	..	1	..	2	..	1	..	..	4		
	20.00–30.00	..	..	..	..	2	3	3	..	..	..	..	8	—30.00	— 1.36
	30.00–40.00	..	..	..	..	..	..	..	3	..	..	..	3		
Total	No. of Bank-Years	1	..	3	4	7	24	23	12	5	1	1	81 81		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—45.00			
	Ratios: Loans and Discounts to Earning Assets (Net)	+ 5.00		+ 7.86		— 0.48		— 3.57		—11.67		+35.00			

TABLE 84

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for National and State Banks with Branches in the Federal Reserve System in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)								Total		
		Number of Bank-Years								No. of Bank-Years	Average Percentage Differences	
		Above the Average					Below the Average				Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Position	Percentage Groups	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00			
Above the Average	20.00–30.00	..	..	..	1	2	2	..	..	5	+25.00	+3.00
	10.00–20.00	1	3	1	1	3	6	..	1	16	+10.00	+3.72
	Under 10.00	..	1	2	3	8	11	6	..	31		
Below the Average	Under 10.00	..	..	1	1	..	13	7	..	22	—10.00	—6.11
	10.00–20.00	..	..	..	..	1	3	..	1	5		
	20.00–30.00	..	..	..	1	2	2	1	..	6	—30.00	+2.00
	30.00–40.00	..	..	..	1	2	1	..	..	4		
Total	No. of Bank-Years	1	4	4	8	18	38	14	2	89 89		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+45.00	+30.00		+10.00		—10.00		—25.00			
	Ratios: Loans and Discounts to Earning Assets (Net)	+15.00	+ 8.75		— 0.39		— 0.58		± 0.00			

TABLE 85

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—LOANS AND DISCOUNTS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	1	..	..	1	+50.00	+1.67
	40.00–50.00	..	..	..	1	2	3	4	1	..	..	11		
	30.00–40.00	1	2	..	5	15	13	8	2	1	1	48	+30.00	+4.85
	20.00–30.00	..	1	..	5	12	27	28	8	1	..	82		
	10.00–20.00	1	1	4	4	15	34	52	20	4	..	135	+10.00	+1.67
	Under 10.00	2	1	5	9	29	33	51	24	5	..	159		
Below the Average	Under 10.00	1	..	1	4	13	34	44	24	5	..	126	—10.00	—2.23
	10.00–20.00	1	..	2	3	4	17	44	20	7	..	98		
	20.00–30.00	1	..	..	3	5	10	21	20	6	1	67	—30.00	—5.42
	30.00–40.00	..	..	..	..	5	4	4	12	3	..	28		
	40.00–50.00	..	..	1	2	1	3	4	8	4	1	24	—50.00	—5.45
	50.00 and over	..	..	..	1	5	1	5	4	4	..	20		
Total	No. of Bank-Years	7	5	13	37	106	179	265	144	40	3	799 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+10.83		+ 3.40		+ 5.17		— 2.29		—15.70				

TABLE 86

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) under 2,500, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)									Total		
		Number of Bank-Years										Average Percentage Differences	
		Above the Average						Below the Average					
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	..	..	..	1	2	1	..	..	..	4	+45.00	+15.00
	30.00–40.00	1	..	..	4	10	8	5	1	..	29	+30.00	+ 6.41
	20.00–30.00	..	..	..	4	8	14	11	4	1	42		
	10.00–20.00	1	..	1	2	4	21	21	7	1	58	+10.00	+ 0.84
	Under 10.00	..	..	3	1	10	10	19	9	3	55		
Below the Average	Under 10.00	..	..	1	..	4	15	23	6	4	53	—10.00	— 2.53
	10.00–20.00	..	..	1	1	3	9	21	7	2	44		
	20.00–30.00	1	..	..	..	3	2	10	14	4	34	—30.00	— 7.55
	30.00–40.00	..	..	..	..	3	1	..	7	2	13		
	40.00–50.00	..	..	1	1	..	2	2	5	1	12	—50.00	± 0.00
	50.00 and over	..	..	..	1	5	..	1	2	1	10		
Total	No. of Bank-Years	3	..	7	15	52	83	113	62	19	354 354		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—25.00			
	Ratios: Loans and Discounts to Earning Assets (Net)	+8.33		+7.73		+6.56		—4.26		—13.95			

* Under 1,500 and 1,500 to 2,500.

TABLE 87

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) of 2,500 to 15,000, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	1	..	..	1	+50.00	—5.00
	40.00–50.00	..	..	..	..	..	2	4	1	..	..	7		
	30.00–40.00	..	2	..	1	4	3	3	1	..	..	14	+30.00	+4.05
	20.00–30.00	..	..	..	1	3	9	12	3	..	..	28		
	10.00–20.00	..	1	2	1	6	3	18	5	2	..	38	+10.00	+3.33
	Under 10.00	1	..	2	3	5	10	9	3	1	..	34		
Below the Average	Under 10.00	1	..	..	3	6	11	5	10	..	..	36	—10.00	—0.40
	10.00–20.00	1	..	..	..	..	6	11	7	2	..	27		
	20.00–30.00	..	..	..	..	1	6	9	3	2	..	21	—30.00	—4.65
	30.00–40.00	..	..	..	..	2	..	3	2	1	..	8		
	40.00–50.00	..	..	..	1	1	..	2	3	2	1	10	—50.00	—5.59
	50.00 and over	..	..	..	..	..	1	2	1	3	..	7		
Total	No. of Bank-Years	3	3	4	10	28	51	78	40	13	1	231 / 231		
	Average Percentage Differences: Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Average Percentage Differences: Ratios: Loans and Discounts to Earning Assets (Net)	+11.67		+ 5.00		+ 4.11		— 0.08		—27.14				

* 2,500–5,000 and 5,000–15,000.

TABLE 88

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) of 15,000 and Over, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under – 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	30.00–40.00	..	..	..	..	1	2	..	..	1	1	5	+30.00	+0.29
	20.00–30.00	..	1	..	..	1	4	5	1	..	..	12		
	10.00–20.00	..	..	1	1	5	10	13	8	1	..	39	+10.00	+1.42
	Under 10.00	1	1	..	5	14	13	23	12	1	..	70		
Below the Average	Under 10.00	..	..	..	1	3	8	16	8	1	..	37	—10.00	—3.59
	10.00–20.00	..	..	1	2	1	2	12	6	3	..	27		
	20.00–30.00	..	..	..	3	1	2	2	3	..	1	12	—30.00	—1.32
	30.00–40.00	..	..	..	..	..	3	1	3	..	..	7		
	40.00–50.00	..	..	..	..	..	1	..	..	1	..	2	—50.00	—9.00
	50.00 and over	..	..	..	..	..	..	2	1	..	..	3		
Total	No. of Bank-Years	1	2	2	12	26	45	74	42	8	2	214 / 214		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+11.67		— 5.00		+ 3.73		— 1.55		— 3.00				

* 15,000–50,000
50,000–100,000
100,000 and over

TABLE 89

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Having Average Earning Assets under $1,000,000, 1925–1927

(Percentage Differences from the Yearly Averages of This Volume Group)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	1	..	..	1	+50.00	+5.83
	40.00–50.00	..	..	..	3	2	1	5	..	..	..	11		
	30.00–40.00	1	1	3	6	10	14	9	1	..	..	45	+30.00	+7.63
	20.00–30.00	1	..	2	4	7	16	19	5	..	..	54		
	10.00–20.00	..	..	2	1	9	21	19	7	2	..	61	+10.00	+1.64
	Under 10.00	1	..	2	6	14	12	25	12	4	..	76		
Below the Average	Under 10.00	..	1	..	3	13	15	31	8	..	..	71	—10.00	+0.27
	10.00–20.00	1	..	1	1	2	21	21	10	3	..	60		
	20.00–30.00	1	..	..	..	5	5	11	17	2	..	41	—30.00	—6.27
	30.00–40.00	..	..	..	1	1	3	3	12	2	..	22		
	40.00–50.00	..	..	1	1	2	1	2	4	3	1	15	—50.00	—5.00
	50.00 and over	..	..	1	1	4	1	..	5	5	..	17		
Total	No. of Bank-Years	5	2	12	27	69	110	145	82	21	1	474 / 474		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+ 7.86		+10.38		+ 4.72		— 2.75		—25.91				

TABLE 90

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—LOANS AND DISCOUNTS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR CALIFORNIA MEMBER BANKS HAVING AVERAGE EARNING ASSETS OF $1,000,000 TO $3,000,000, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)									Total		
		Number of Bank-Years										Average Percentage Differences	
		Above the Average						Below the Average					
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	30.00–40.00	..	..	..	..	..	2	1	1	..	4	+30.00	+4.60
	20.00–30.00	..	1	..	..	5	9	5	1	..	21		
	10.00–20.00	..	..	..	1	2	11	17	8	..	39	+10.00	+0.48
	Under 10.00	..	1	1	3	6	11	19	3	1	45		
Below the Average	Under 10.00	1	..	..	2	5	7	7	4	..	26	—10.00	—0.53
	10.00–20.00	..	..	..	..	1	4	8	6	2	21		
	20.00–30.00	..	..	..	..	1	5	7	4	..	17	—30.00	—2.27
	30.00–40.00	..	..	..	..	..	3	2	..	..	5		
	40.00–50.00	..	..	..	..	..	1	2	..	..	3	—50.00	—5.00
	50.00 and over	..	..	..	..	..	1	2	2	..	5		
Total	No. of Bank-Years	1	2	1	6	20	54	70	29	3	186 / 186		
Total: Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—25.00			
	Ratios: Loans and Discounts to Earning Assets (Net)	+8.33		+3.57		+2.84		—2.17		—8.33			

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 91

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Having Average Earning Assets of $3,000,000 and Over, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	..	..	..	..	..	..	..	..	1	1	2	+45.00	—30.00
	30.00–40.00	..	..	..	..	..	..	..	1	..	..	1	+30.00	—10.00
	20.00–30.00	..	..	..	..	..	..	1	..	..	..	1		
	10.00–20.00	..	..	..	..	3	11	6	5	..	..	25	+10.00	+ 3.65
	Under 10.00	1	2	2	4	8	10	13	8	1	..	49		
Below the Average	Under 10.00	..	..	1	..	3	7	15	6	..	..	32	—10.00	— 3.40
	10.00–20.00	..	..	1	..	..	3	6	6	2	..	18		
	20.00–30.00	..	..	..	2	..	2	3	2	..	1	10	—30.00	+ 1.36
	30.00–40.00	..	..	1	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	1	2	5	6	14	33	44	28	4	2	139 / 139		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	+5.00		—6.82		+3.30		—1.11		+6.67				

* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 92

Correlation of Percentage Differences of Ratios in Paired Series—Loans and Discounts to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Loans and Discounts to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Loans and Discounts to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	1	..	..	..	..	1	+50.00	+13.00
	40.00–50.00	..	..	1	1	1	1	..	..	..	..	..	..	4		
	30.00–40.00	11	..	4	3	1	4	3	2	2	4	..	6	40	+30.00	+3.55
	20.00–30.00	14	2	3	10	13	12	9	8	7	5	7	8	98		
	10.00–20.00	12	9	7	12	13	21	18	17	16	9	10	11	155	+10.00	—1.49
	Under 10.00	18	8	5	9	15	8	11	19	6	8	12	17	136		
Below the Average	Under 10.00	16	3	5	13	10	6	8	8	16	9	6	22	122	—10.00	—4.72
	10.00–20.00	14	4	6	7	7	5	6	6	5	5	9	18	92		
	20.00–30.00	8	3	3	4	6	8	12	4	4	4	5	6	67	—30.00	—3.51
	30.00–40.00	6	..	..	..	2	1	3	1	2	2	1	9	27		
	40.00–50.00	3	1	1	1	..	1	..	1	1	1	1	6	17	—50.00	—9.15
	50.00 and over	4	..	1	..	..	3	3	3	4	..	2	4	24		
Total	No. of Bank-Years	106	30	36	60	68	70	73	70	63	47	53	107	783 / 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Loans and Discounts to Earning Assets (Net)	—0.15		+4.27		+4.28		+1.08		+0.27		—4.81				

TABLE 93

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL DEPOSITS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	1	..	..	..	1	+50.00	+15.00
	40.00–50.00	..	..	1	1	..	1	..	..	..	..	3		
	30.00–40.00	1	1	1	3	7	3	1	..	1	..	18	+30.00	+12.75
	20.00–30.00	..	1	4	4	7	3	10	2	..	..	31		
	10.00–20.00	1	1	4	11	26	46	37	3	3	..	132	+10.00	+ 4.71
	Under 10.00	2	1	7	12	29	74	66	20	3	..	214		
Below the Average	Under 10.00	1	1	..	4	22	55	87	53	9	..	232	—10.00	— 3.66
	10.00–20.00	1	1	..	2	8	9	40	37	4	1	103		
	20.00–30.00	1	..	1	2	1	5	12	16	5	..	43	—30.00	— 6.75
	30.00–40.00	..	..	..	..	3	1	5	8	2	1	20		
	40.00–50.00	..	..	..	..	..	..	..	..	1	..	1	—50.00	—30.00
	50.00 and over	..	..	..	..	..	..	..	..	..	1	1		
Total	No. of Bank-Years	7	6	18	39	103	197	259	139	28	3	799 / 799		
Total: Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Total Deposits to Earning Assets (Net)	+ 5.77		+10.96		+ 4.37		— 4.00		— 11.45				

TABLE 94

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL DEPOSITS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR CALIFORNIA MEMBER BANKS HAVING AVERAGE EARNING ASSETS UNDER $1,000,000, 1925–1927

(Percentage Differences from the Yearly Averages of This Volume Group)

Ratios: Total Deposits to Earning Assets *(Percentage Differences)*		Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	1	..	..	..	1	+50.00	+15.00
	40.00–50.00	..	..	1	1	..	1	..	..	..	..	3		
	30.00–40.00	1	..	..	2	6	2	1	..	1	..	13	+30.00	+11.86
	20.00–30.00	..	1	3	4	4	..	8	2	..	..	22		
	10.00–20.00	1	..	3	8	15	23	17	2	3	..	72	+10.00	+ 5.54
	Under 10.00	2	..	4	6	17	40	34	8	2	..	113		
Below the Average	Under 10.00	1	1	..	3	19	32	54	32	8	..	150	—10.00	— 3.49
	10.00–20.00	..	..	..	2	4	8	21	23	3	1	62		
	20.00–30.00	..	..	1	1	1	4	6	10	3	..	26	—30.00	— 6.05
	30.00–40.00	..	..	..	..	3	..	3	5	1	..	12		
Total	No. of Bank-Years	5	2	12	27	69	110	145	82	21	1	474 474		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Total Deposits to Earning Assets (Net)	+10.71		+11.67		+ 3.44		— 4.12		— 5.45				

TABLE 95

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Having Average Earning Assets of $1,000,000 to $3,000,000, 1925–1927

(*Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups**)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years									Total		
		Above the Average						Below the Average				Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	30.00–40.00	..	..	..	1	1	1	..	..	..	3	+30.00	+8.00
	20.00–30.00	..	..	..	..	2	3	2	..	..	7		
	10.00–20.00	..	1	..	1	2	11	13	..	..	28	+10.00	+3.54
	Under 10.00	..	1	1	4	9	15	18	5	1	54		
Below the Average	Under 10.00	..	..	..	..	3	21	20	12	1	57	−10.00	−3.81
	10.00–20.00	..	..	..	..	3	1	13	10	..	27		
	20.00–30.00	1	..	..	..	..	1	3	1	..	6	−30.00	−1.00
	30.00–40.00	..	..	..	..	..	1	1	1	1	4		
Total	No. of Banks-Years	1	2	1	6	20	54	70	29	3	186 / 186		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		−10.00		−25.00			
	Ratios: Total Deposits to Earning Assets (Net)	− 1.67		+10.71		+ 3.65		− 3.18		−11.67			

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 96

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Gross Earnings to Earning Assets for California Member Banks Having Average Earning Assets of $3,000,000 and Over, 1925–1927

(*Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups**)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under – 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	30.00–40.00	..	1	1	..	..	..	..	..	..	..	2	+30.00	+32.50
	20.00–30.00	..	..	1	..	1	..	..	..	..	..	2		
	10.00–20.00	..	..	1	2	9	12	7	1	..	..	32	+10.00	+ 3.99
	Under 10.00	..	..	2	2	3	19	14	7	..	..	47		
Below the Average	Under 10.00	..	..	..	1	..	2	13	9	..	..	25	—10.00	— 4.23
	10.00–20.00	1	1	..	..	1	..	6	4	1	..	14		
	20.00–30.00	..	..	..	1	..	..	3	5	2	..	11	—30.00	—12.33
	30.00–40.00	..	..	..	..	..	..	1	2	..	1	4		
	40.00–50.00	..	..	..	..	..	..	..	..	1	..	1	—50.00	—30.00
	50.00 and over	..	..	..	..	..	..	..	..	..	1	1		
Total	No. of Bank-Years	1	2	5	9	14	33	44	28	4	2	139 139		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Total Deposits to Earning Assets (Net)	+ 1.67		+ 8.64		+ 9.04		— 4.72		—33.33				

* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 97

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL DEPOSITS TO EARNING ASSETS AND TOTAL EXPENSE TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	..	..	..	..	..	..	1	..	..	..	..	..	1	+50.00	+27.50
Above	40.00–50.00	1	..	1	1	..	..	..	..	..	..	..	..	3		
the	30.00–40.00	1	2	3	3	2	2	3	..	1	..	..	..	17	+30.00	+16.49
Aver-	20.00–30.00	2	1	3	4	6	10	3	..	..	1	..	..	30		
age	10.00–20.00	2	3	8	14	35	39	21	7	1	..	..	..	130	+10.00	+ 6.35
	Under 10.00	2	3	4	20	33	63	51	25	9	1	..	..	211		
	Under 10.00	2	1	1	8	21	44	57	63	23	7	..	..	227	−10.00	− 6.10
Below	10.00–20.00	1	1	1	..	7	14	31	25	12	6	2	1	101		
the	20.00–30.00	1	..	..	1	2	1	6	12	14	3	..	1	41	−30.00	−15.82
Aver-	30.00–40.00	..	..	..	..	1	..	4	6	7	1	..	1	20		
age	40.00–50.00	..	..	..	..	..	..	..	..	..	1	..	..	1	−50.00	−40.00
	50.00 and over	..	..	..	..	..	..	..	..	..	..	1	..	1		
Total	No. of Bank-Years	12	11	21	51	107	173	177	138	67	20	3	3	783 783		
Total Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Ratios: Total Deposits to Earning Assets (Net)	+11.09		+11.67		+ 4.57		− 3.83		−12.01		−26.67				

TABLE 98

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Total Expense to Earning Assets for California Member Banks Having Average Earning Assets under $1,000,000, 1925–1927

(Percentage Differences from the Yearly Averages of This Volume Group)

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	1	..	..	..	..	..	1	+50.00	+27.50
	40.00–50.00	1	..	1	1	..	..	..	..	..	..	..	..	3		
	30.00–40.00	1	2	2	2	1	2	1	..	1	..	..	..	12	+30.00	+18.64
	20.00–30.00	2	1	3	2	3	8	1	..	..	1	..	..	21		
	10.00–20.00	2	2	4	6	19	19	11	7	1	..	..	..	71	+10.00	+5.72
	Under 10.00	2	2	2	8	16	33	26	14	6	1	..	..	110		
Below the Average	Under 10.00	2	..	..	6	11	29	43	35	14	6	..	..	146	−10.00	−6.26
	10.00–20.00	1	..	..	..	5	8	16	18	8	4	1	..	61		
	20.00–30.00	1	..	..	1	1	1	2	7	9	1	..	1	24	−30.00	−15.28
	30.00–40.00	..	..	..	..	1	..	2	4	3	1	..	1	12		
Total	No. of Bank-Years	12	7	12	26	57	100	103	85	42	14	1	2	461 461		
Total: Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Ratios: Total Deposits to Earning Assets (Net)	+13.42		+13.16		+4.55		−3.99		−10.00		−25.00				

TABLE 99

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Total Expense to Earning Assets for California Member Banks Having Average Earning Assets of $1,000,000 to $3,000,000, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) Number of Bank-Years											Total		
		Above the Average					Below the Average							Average Percentage Differences	
Position	Percentage Groups	40.00–50.00	30.00–40.00	20.00–30.00	10.00–20.00	Under 10.00	Under 10.00	10.00–20.00	20.00–30.00	30.00–40.00	40.00–50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	30.00–40.00	..	..	..	1	..	2	..	..	..	..	..	3	+30.00	+ 7.00
	20.00–30.00	..	..	1	3	1	2	..	..	..	..	..	7		
	10.00–20.00	1	3	4	4	8	7	..	..	..	..	..	27	+10.00	+ 7.72
	Under 10.00	1	1	7	10	14	15	6	..	..	..	..	54		
Below the Average	Under 10.00	..	1	2	8	13	8	18	5	1	..	..	56	—10.00	— 6.34
	10.00–20.00	..	..	..	1	4	10	4	3	2	1	1	26		
	20.00–30.00	..	..	..	1	..	2	2	..	1	..	..	6	—30.00	—14.00
	30.00–40.00	..	..	..	..	..	..	2	2	..	..	..	4		
Total	No. of Bank-Years	2	5	14	28	40	46	32	10	4	1	1	183 / 183		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+45.00	+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Deposits to Earning Assets (Net)	+10.00	+ 8.16		+ 3.38		— 2.31		—14.29		—15.00				

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 100

Correlation of Percentage Differences of Ratios in Paired Series—Total Deposits to Earning Assets and Total Expense to Earning Assets for California Member Banks Having Average Earning Assets of $3,000,000 and Over, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Total Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) Number of Bank-Years										Total		
		Above the Average					Below the Average						Average Percentage Differences	
Position	Percentage Groups	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	No. of Bank-Years	Ratios: Total Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	30.00–40.00	..	1	1	..	..	..	..	..	..	..	2	+30.00	+22.50
	20.00–30.00	..	..	1	..	1	..	..	..	..	..	2		
	10.00–20.00	..	1	4	12	12	3	..	..	..	..	32	+10.00	+ 6.39
	Under 10.00	..	1	5	7	16	10	5	3	..	..	47		
Below the Average	Under 10.00	1	..	..	2	2	6	10	4	..	..	25	—10.00	— 4.74
	10.00–20.00	1	1	..	1	2	5	3	1	..	..	14		
	20.00–30.00	..	..	..	..	..	2	3	5	1	..	11	—30.00	—18.33
	30.00–40.00	..	..	..	..	..	2	..	2	..	..	4		
	40.00–50.00	..	..	..	..	..	..	..	..	1	..	1	—50.00	—40.00
	50.00 and over	..	..	..	..	..	..	..	..	..	1	1		
Total	No. of Bank-Years	2	4	11	22	33	28	21	15	2	1	139 / 139		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+45.00	+30.00		+10.00		—10.00		—30.00		—45.00			
	Ratios: Total Deposits to Earning Assets (Net)	—10.00	+12.33		+ 7.91		— 5.61		—16.77		—55.00			

* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 101

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR NATIONAL BANKS IN SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*) — Number of City Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over	No. of City Bank-Years	Ratios: Demand Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	15.00 and over	1[sf]	2[sf]	1[sf]	2[sf]	3	1	1	3[la]	1	..	..	..	15	+21.77	+6.76
	10.00–15.00	..	2	2	5	3[sf la]	4[la]	5	..	6[o]	..	..	..	27	+12.21	+3.06
	5.00–10.00	2	..	2	5	8	10	9	8	5	..	..	..	49	+6.99	+2.57
	Under 5.00	..	3	..	7	15[o]	33[o]	25	17[la]	3	1	..	..	104	+2.32	+1.08
Below the Average	Under 5.00	4	2	..	7	9	18[o]	32	25	5	5	..	1	108	−2.38	−0.60
	5.00–10.00	..	..	1	4	7[o]	15[la]	12	10	2	2	..	..	53	−7.09	−0.69
	10.00–15.00	1	..	1	..	1	5	5	1	1	1	..	..	16	−12.16	+1.32
	15.00 and over	..	..	1	..	..	5[la]	2	..	2	..	1	1[sf]	12	−29.80	−4.43
Total	No. of City Bank-Years	8	9	8	30	46	91	91	64	25	9	1	2	384 384		
Total — Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+34.94	+21.49	+17.88	+11.87	+ 7.22	+ 2.07	− 2.66	− 6.66	−11.83	−17.02	−22.83	−31.59			
	Ratios: Demand Deposits to Earning Assets (Net)	+ 2.30	+ 8.95	+ 3.03	+ 3.86	+ 2.66	− 1.49	− 1.29	+ 0.11	+ 1.52	− 3.53	−36.57	−14.43			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 102

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Total Expense to Earning Assets for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(*Percentage Differences from the Respective City Averages, 1922–1927*)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	25.00 and Over	20.00 – 25.00	15.00 – 20.00	10.00 – 15.00	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 – 15.00	15.00 – 20.00	20.00 – 25.00	25.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	15.00 and over	2[sf]	2[sf]	1[sf]	2	..	2	1	2	2[la]	1	..	..	15	+21.77	+6.25
	10.00–15.00	..	1	..	5	4[sf]	6[la]	2	5[la]	4[o]	..	..	..	27	+12.21	+1.46
	5.00–10.00	2	2	1	2	7	12	10	8	5	..	..	..	49	+ 6.99	+2.13
	Under 5.00	..	1	3	10	11[o]	28[o]	27[la]	16	6	1	1	..	104	+ 2.32	+0.69
Below the Average	Under 5.00	3	1	..	6	16	22[o]	33[o]	16	7	1	2	1	108	— 2.38	—0.26
	5.00–10.00	..	1	..	1	10	13[o] [la]	17	6	2	2	1	..	53	— 7.09	—0.48
	10.00–15.00	1	..	..	..	5	..	7	1	2	..	..	..	16	—12.16	+1.34
	15.00 and over	..	..	1	1	3[la]	1	1	1	3	..	..	1[sf]	12	—29.80	—1.91
Total	No. of City Bank-Years	8	8	6	27	56	84	98	55	31	5	4	2	384 / 384		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+31.52	+21.90	+17.12	+12.18	+ 7.52	+ 2.26	— 2.26	— 7.09	—12.23	—16.53	—20.94	—28.52			
	Ratios: Demand Deposits to Earning Assets (Net)	+ 5.59	+ 8.21	+ 2.69	+ 4.63	— 3.49	+ 1.40	— 1.52	+ 1.23	— 0.16	+ 1.11	— 2.18	—14.43			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 103

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*) Position	Percentage Groups	Ratios: Gross Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years — Above the Average: 50.00 and Over	40.00–50.00	30.00–40.00	20.00–30.00	10.00–20.00	Under 10.00	Below the Average: Under 10.00	10.00–20.00	20.00–30.00	30.00–40.00	Total: No. of Bank-Years	Total: Average Percentage Differences — Ratios: Demand Deposits to Earning Assets	Total: Average Percentage Differences — Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	3	1	4	10	13	22	12	5	1	..	71	+50.00	+8.50
	40.00–50.00	..	..	1	1	9	7	11	3	..	..	32		
	30.00–40.00	..	1	1	5	6	10	15	3	..	..	41	+30.00	+4.35
	20.00–30.00	..	1	2	5	13	12	25	7	1	..	66		
	10.00–20.00	..	..	..	3	18	15	27	13	1	..	77	+10.00	—0.19
	Under 10.00	..	1	2	3	7	24	24	16	6	..	83		
Below the Average	Under 10.00	..	..	3	4	12	28	33	16	4	..	100	—10.00	+0.05
	10.00–20.00	1	2	..	3	15	28	33	18	5	1	106		
	20.00–30.00	..	..	..	6	5	16	28	13	4	..	72	—30.00	—3.99
	30.00–40.00	..	1	..	3	..	12	13	22	4	2	57		
	40.00–50.00	1	..	..	1	..	5	14	13	4	..	38	—50.00	—7.77
	50.00 and over	..	..	1	1	2	6	18	21	6	1	56		
Total	No. of Bank-Years	5	7	14	45	100	185	253	150	36	4	799 799		
Total — Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+13.33		+13.98		+ 7.11		— 7.01		—21.50				

TABLE 104

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Demand Deposits to Earning Assets *(Percentage Differences)*		Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*											Total		
		Number of Bank-Years											No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00		Ratios: Demand Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
	50.00 and over	1	1	5	10	13	19	3	4	..	..	..	56	+50.00	+11.14
Above	40.00–50.00	2	..	3	2	4	7	10	3	1	..	..	32		
the	30.00–40.00	..	..	1	3	9	12	20	3	..	..	..	48	+30.00	+ 2.71
Aver-	20.00–30.00	..	..	1	3	12	12	21	8	..	..	..	57		
age	10.00–20.00	..	1	2	5	21	18	32	9	1	..	..	89	+10.00	+ 0.88
	Under 10.00	1	..	1	2	7	26	29	15	7	..	..	88		
	Under 10.00	..	1	1	4	18	33	30	18	3	1	..	109	—10.00	— 0.67
Below	10.00–20.00	..	1	1	2	13	24	32	17	7	1	1	99		
the	20.00–30.00	..	..	1	4	7	12	35	17	3	..	..	79	—30.00	— 4.13
Aver	30.00–40.00	..	1	..	2	1	14	25	24	3	1	..	71		
age	40.00–50.00	1	..	..	1	..	3	9	11	3	..	..	28	—50.00	— 9.78
	50.00 and over	..	..	1	1	2	2	6	21	9	1	..	43		
Total	No. of Bank-Years	5	5	17	39	107	182	252	150	37	4	1	799 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—45.00			
	Ratios: Demand Deposits to Earning Assets (Net)	+12.00		+17.67		+ 7.53		— 7.56		—23.05		—15.00			

TABLE 105

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years										No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average						
Posi-tion	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00		Ratios: Demand Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
	50.00 and over	2	..	4	6	13	19	13	2	..	..	59	+50.00	+9.16
Above	40.00–50.00	1	1	1	5	3	7	7	4	1	..	30		
the	30.00–40.00	..	..	..	3	5	10	26	11	..	..	55	+30.00	+1.33
Aver–	20.00–30.00	..	2	3	5	13	11	29	9	1	..	73		
age	10.00–20.00	..	1	2	2	10	17	26	8	1	..	67	+10.00	+0.85
	Under 10.00	1	..	..	1	17	20	29	14	3	..	85		
	Under 10.00	..	1	..	4	12	28	27	15	6	1	94	−10.00	−1.02
Below	10.00–20.00	..	..	2	2	16	28	39	20	4	1	112		
the	20.00–30.00	1	..	1	6	8	17	32	15	8	..	88	−30.00	−2.97
Aver–	30.00–40.00	1	..	..	..	4	13	15	16	6	..	55		
age	40.00–50.00	1	..	..	2	..	6	9	11	3	..	32	−50.00	−7.35
	50.00 and over	..	..	..	1	5	3	13	19	7	1	49		
Total	No. of Bank-Years	7	5	13	37	106	179	265	144	40	3	799 / 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+13.33		+15.80		+ 4.16		− 4.12		−23.14				

TABLE 106

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO EARNING ASSETS AND GROSS EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years											Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	No. of Bank-Years	Ratios: Demand Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	2	3	6	11	13	13	2	..	..	51	+50.00	+8.57
	40.00–50.00	1	1	2	4	8	11	17	2	1	..	47		
	30.00–40.00	1	1	2	1	5	14	20	12	..	..	56	+30.00	+1.55
	20.00–30.00	..	..	2	4	6	13	22	7	..	..	54		
	10.00–20.00	1	..	2	5	17	12	25	8	3	..	73	+10.00	+2.02
	Under 10.00	..	..	..	5	20	26	38	15	1	..	105		
Below the Average	Under 10.00	..	2	3	4	11	31	29	13	3	..	96	—10.00	+0.25
	10.00–20.00	..	..	3	4	11	23	40	16	5	2	104		
	20.00–30.00	1	..	..	3	6	27	23	15	5	..	80	—30.00	—1.43
	30.00–40.00	1	..	..	1	4	18	9	14	2	..	49		
	40.00–50.00	1	..	..	1	..	5	11	15	2	..	35	—50.00	—7.50
	50.00 and over	..	..	1	1	4	4	12	20	6	1	49		
Total	No. of Bank-Years	7	6	18	39	103	197	259	139	28	3	799 / 799		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+17.31		+13.07		+ 3.33		— 3.64		—22.42				

TABLE 107

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	6	4	9	6	8	11	12	6	3	3	..	..	68	+50.00	+8.00
	40.00–50.00	..	1	2	..	6	7	6	4	4	2	..	..	32		
	30.00–40.00	1	1	..	4	6	10	9	5	2	1	1	..	40	+30.00	+1.31
	20.00–30.00	2	..	..	7	13	10	13	7	8	2	1	..	63		
	10.00–20.00	..	..	2	8	12	11	22	9	7	2	2	..	75	+10.00	—0.89
	Under 10.00	1	1	..	6	12	19	18	12	10	2	..	..	81		
Below the Average	Under 10.00	2	..	2	10	17	20	17	18	10	2	..	..	98	—10.00	—0.44
	10.00–20.00	..	2	1	4	12	29	31	16	5	5	..	1	106		
	20.00–30.00	1	..	1	3	10	21	16	11	7	..	1	..	71	—30.00	—2.97
	30.00–40.00	..	..	2	2	3	11	15	14	9	..	1	..	57		
	40.00–50.00	1	..	1	1	5	6	10	9	3	2	..	..	38	—50.00	—4.78
	50.00 and over	..	..	1	1	5	8	17	15	5	2	..	..	54		
Total	No. of Bank-Years	14	9	21	52	109	163	186	126	73	23	6	1	783 / 783		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+26.74		+11.44		— 0.04		— 6.86		— 1.67		+ 2.14				

TABLE 108

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	5	4	8	4	10	10	6	4	2	..	..	..	53	+50.00	+12.86
	40.00–50.00	3	2	3	1	2	5	6	3	3	3	..	..	31		
	30.00–40.00	1	..	..	2	10	10	11	8	3	3	..	..	48	+30.00	− 1.89
	20.00–30.00	..	1	..	5	10	12	7	8	7	3	2	..	55		
	10.00–20.00	2	1	3	8	7	18	28	10	8	1	..	..	86	+10.00	+ 0.52
	Under 10.00	..	1	1	7	15	17	26	7	7	3	2	..	86		
Below the Average	Under 10.00	..	..	2	11	16	24	26	19	8	..	1	..	107	−10.00	− 0.39
	10.00–20.00	1	1	..	8	13	24	24	13	11	3	1	..	99		
	20.00–30.00	1	..	3	3	9	24	20	11	5	1	..	1	78	−30.00	− 3.26
	30.00–40.00	..	..	1	1	6	12	17	23	11	..	..	..	71		
	40.00–50.00	1	..	..	2	3	3	8	8	1	2	..	..	28	−50.00	− 7.46
	50.00 and over	..	..	..	1	1	5	12	14	6	2	..	..	41		
Total	No. of Bank-Years	14	10	21	53	102	164	191	128	72	21	6	1	783 783		
	Average Percentage Differences: Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Average Percentage Differences: Ratios: Demand Deposits to Earning Assets (Net)	+30.42		+ 9.32		+ 1.47		− 7.45		− 3.60		+ 2.14				

TABLE 109

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO EARNING ASSETS AND TOTAL EXPENSE TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Ratios: Total Expense to Earning Assets												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	3	1	8	5	4	12	12	6	6	..	..	..	57	+50.00	+8.49
Above	40.00–50.00	3	2	2	2	5	3	6	2	3	1	..	..	29		
the	30.00–40.00	..	1	1	1	3	9	13	14	6	6	..	..	54	+30.00	—2.92
Aver-	20.00–30.00	..	1	1	5	18	14	13	10	6	3	..	..	71		
age	10.00–20.00	2	1	2	4	9	14	16	10	4	..	2	..	64	+10.00	+1.31
	Under 10.00	..	1	1	8	13	18	26	12	5	..	1	..	85		
	Under 10.00	..	..	3	8	17	21	15	16	4	5	1	..	90	—10.00	—0.20
Below	10.00–20.00	2	1	3	3	13	33	22	24	9	2	..	..	112		
the	20.00–30.00	1	1	1	6	8	29	24	13	1	2	..	1	87	—30.00	—1.74
Aver-	30.00–40.00	..	..	..	2	6	11	11	14	9	1	..	..	54		
age	40.00–50.00	1	..	2	1	1	8	8	8	3	..	..	..	32	—50.00	—5.25
	50.00 and over	..	..	1	..	2	9	13	17	3	3	..	..	48		
Total	No. of Bank-Years	12	9	25	45	99	181	179	146	59	23	4	1	783 783		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+19.76		+ 9.57		— 1.60		— 4.82		+ 1.71		+ 1.00				

TABLE 110

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	2	1	6	8	4	5	14	9	1	..	..	..	50	+50.00	+5.74
	40.00–50.00	2	1	3	4	7	7	4	10	1	4	1	..	44		
	30.00–40.00	1	2	1	2	5	9	11	8	12	5	..	..	56	+30.00	—2.89
	20.00–30.00	1	2	..	..	11	15	7	8	7	2	..	..	53		
	10.00–20.00	1	3	1	5	10	21	15	8	6	1	..	..	71	+10.00	+1.78
	Under 10.00	..	..	2	11	17	22	27	17	5	..	..	2	103		
Below the Average	Under 10.00	1	1	2	11	16	24	14	13	7	2	1	1	93	—10.00	—0.13
	10.00–20.00	2	1	2	2	12	24	28	17	10	3	1	..	102		
	20.00–30.00	1	..	1	4	10	18	25	17	3	1	..	..	80	—30.00	—0.50
	30.00–40.00	..	..	1	2	10	14	8	8	6	..	..	..	49		
	40.00–50.00	1	..	..	1	1	7	11	6	7	..	..	..	34	—50.00	—5.37
	50.00 and over	..	..	2	1	4	7	13	17	2	2	..	..	48		
Total	No. of Bank-Years	12	11	21	51	107	173	177	138	67	20	3	3	783 783		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+18.04		+10.83		—1.43		—4.24		+1.67		+5.00				

TABLE 111

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Tssets (Net)
	50.00 and over	9	4	5	10	4	6	4	5	3	5	6	7	68	+50.00	+ 6.80
Above	40.00–50.00	11	2	2	1	3	4	..	2	..	2	1	4	32		
the	30.00–40.00	11	1	3	3	2	2	2	3	4	1	5	3	40	+30.00	+ 7.91
Aver-	20.00–30.00	18	3	2	5	4	7	2	3	5	2	2	10	63		
age	10.00–20.00	13	5	3	7	10	8	3	8	2	6	1	9	75	+10.00	+ 2.24
	Under 10.00	9	3	8	5	8	5	9	5	8	6	5	10	81		
	Under 10.00	10	2	5	12	9	9	14	7	7	5	8	10	98	—10.00	— 0.83
Below	10.00–20.00	12	4	4	10	10	12	12	12	9	4	7	10	106		
the	20.00–30.00	7	2	1	2	8	7	5	10	9	1	7	12	71	—30.00	—11.64
Aver-	30.00–40.00	2	3	2	3	1	7	6	5	7	8	4	9	57		
age	40.00–50.00	1	..	..	1	3	2	11	3	4	..	3	10	38	—50.00	—19.34
	50.00 and over	3	1	1	1	6	1	5	7	5	7	4	13	54		
Total	No. of Bank-Years	106	80	86	60	68	70	73	70	68	47	53	107	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+11.84		+ 8.95		— 0.51		— 9.75		— 7.27		— 6.56				

TABLE 112

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Demand Deposits to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	7	3	3	5	4	7	1	4	3	6	5	5	53	+50.00	+ 3.93
Above	40.00–50.00	8	..	4	5	2	1	1	2	1	1	2	4	31		
the	30.00–40.00	12	1	2	3	5	8	3	5	2	1	2	4	48	+30.00	+10.34
Aver-	20.00–30.00	14	3	3	7	2	5	3	4	4	2	3	5	55		
age	10.00–20.00	20	5	4	8	7	9	7	1	5	7	3	10	86	+10.00	+ 1.28
	Under 10.00	10	1	5	4	8	10	6	11	5	8	6	12	86		
	Under 10.00	10	4	11	13	14	7	11	5	5	10	6	11	107	—10.00	— 0.44
Below	10.00–20.00	8	3	1	12	8	13	12	14	10	3	6	9	99		
the	20.00–30.00	7	3	1	2	4	8	6	9	13	4	6	15	78	—30.00	—10.91
Aver-	30.00–40.00	4	5	2	2	5	9	8	9	6	8	3	10	71		
age	40.00–50.00	..	1	..	1	1	2	6	4	3	..	1	9	28	—50.00	—20.36
	50.00 and over	3	..	1	2	3	4	1	6	2	1	6	12	41		
Total	No. of Bank-Years	103	29	37	64	63	83	65	74	59	51	49	106	783 / 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+9.17		+7.47		—0.21		—8.67		—3.60		—7.84				

TABLE 113

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Demand Deposits to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)*												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	11	4	6	3	6	7	4	4	1	5	4	2	57	+50.00	+6.06
Above	40.00–50.00	5	2	1	4	..	2	..	2	3	1	2	7	29		
the	30.00–40.00	12	6	4	7	3	10	4	3	..	2	1	2	54	+30.00	+12.36
Aver-	20.00–30.00	14	6	6	6	4	4	6	4	6	2	4	9	71		
age	10.00–20.00	11	3	1	5	4	6	8	6	5	3	3	9	64	+10.00	—3.19
	Under 10.00	8	3	5	6	8	10	5	7	5	10	5	13	85		
	Under 10.00	7	5	6	8	5	11	14	4	7	6	9	8	90	—10.00	—2.77
Below	10.00–20.00	10	3	4	9	13	14	13	10	11	8	4	13	112		
the	20.00–30.00	10	2	1	3	5	8	15	10	5	8	4	16	87	—30.00	—9.11
Aver-	30.00–40.00	3	3	2	1	4	6	10	4	6	5	4	6	54		
age	40.00–50.00	1	..	2	2	2	3	3	6	3	..	3	7	32	—50.00	—16.00
	50.00 and over	4	..	1	2	4	2	6	4	6	4	3	12	48		
Total	No. of Bank-Years	96	37	39	56	58	83	88	64	58	54	46	104	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Earning Assets (Net)	+11.31		+7.74		—0.11		—7.96		—6.88		—6.87				

TABLE 114

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Earning Assets and Gross Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Time Deposits to Earning Assets (*Percentage Differences*)		Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years												
		Above the Average						Below the Average				No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00		Ratios: Time Deposits to Earning Assets	Ratios: Gross Earnings to Earning Assets (Net)
Above the Average	50.00 and over	2	..	2	3	10	27	36	31	8	1	120	+50.00	−1.67
	40.00–50.00	..	..	1	1	4	19	13	2	2	..	42		
	30.00–40.00	..	..	..	3	5	9	14	8	..	..	39	+30.00	+2.16
	20.00–30.00	..	..	3	5	12	18	22	9	1	..	70		
	10.00–20.00	..	1	2	3	5	20	16	12	2	..	61	+10.00	+2.13
	Under 10.00	..	1	2	4	14	22	22	6	4	..	75		
Below the Average	Under 10.00	1	..	3	3	7	16	22	9	1	..	62	−10.00	+2.17
	10.00–20.00	..	..	1	5	10	13	18	10	1	..	58		
	20.00–30.00	..	1	..	3	5	5	10	4	2	..	30	−30.00	+1.79
	30.00–40.00	..	1	1	3	8	13	13	11	1	..	51		
	40.00–50.00	2	..	2	1	6	4	13	6	2	..	36	−50.00	−0.92
	50.00 and over	1	1	1	4	14	28	49	29	4	2	133		
Total	No. of Bank-Years	6	5	18	38	100	194	248	137	28	3	777 777		
Average Percentage Differences	Ratios: Gross Earnings to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00				
	Ratios: Time Deposits to Earning Assets (Net)	−12.27		+ 0.54		+ 2.24		− 0.66		+ 4.35				

TABLE 115

Correlation of Percentage Differences of Ratios in Paired Series—Time Deposits to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Time Deposits to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Time Deposits to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	2	..	4	5	22	28	27	22	7	2	..	..	119	+50.00	+2.39
	40.00–50.00	..	..	1	3	11	16	7	3	1	..	..	..	42		
	30.00–40.00	..	..	3	3	4	8	10	7	4	..	..	..	39	+30.00	+5.37
	20.00–30.00	2	2	2	12	11	11	19	8	1	..	..	..	68		
	10.00–20.00	..	..	2	3	8	19	17	10	2	..	..	..	61	+10.00	+1.19
	Under 10.00	1	2	1	4	5	25	20	10	3	2	..	..	73		
Below the Average	Under 10.00	..	2	1	5	8	18	18	7	3	..	..	..	62	−10.00	+8.97
	10.00–20.00	..	1	1	4	7	14	11	9	5	2	..	1	55		
	20.00–30.00	..	1	..	..	8	5	4	9	2	..	..	..	29	−30.00	+2.18
	30.00–40.00	1	2	1	4	10	8	10	9	4	..	..	..	49		
	40.00–50.00	3	1	..	3	3	6	6	8	3	..	1	..	34	−50.00	−8.05
	50.00 and over	1	..	5	4	8	15	21	30	29	13	2	2	130		
Total	No. of Bank-Years	10	11	21	50	105	173	170	132	64	19	3	3	761 / 761		
Total: Average Percentage Differences	Ratios: Total Expense to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Ratios: Time Deposits to Earning Assets (Net)	− 7.86		+ 5.99		+ 8.70		+ 0.40		−24.03		−46.67				

TABLE 116

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Total Deposits and Net Earnings to Earning Assets for National Banks in Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of City Bank-Years												No. of City Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	37.50 and Over	30.00 – 37.50	22.50 – 30.00	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 – 22.50	22.50 – 30.00	30.00 – 37.50	37.50 and Over		Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	15.00 and over	3[sf]	..	1[la]	4[sf]	..	4[sfla]	1	1	..	..	..	..	14	+24.19	+18.15
	10.00–15.00	5	..	2	1	3[la]	3	1	1	1	..	..	..	17	+12.26	+17.53
	5.00–10.00	6	2	2	5	6	8	8	8[o]	1	2	..	..	48	+ 6.78	+ 9.00
	Under 5.00	3	3	2	7	18	26[o]	26[o]	15[la]	10	7	..	1	118	+ 2.06	+ 0.44
Below the Average	Under 5.00	3	3	3	8	8	18[o]	31	26[o]	10	8	2	3	123	— 2.23	— 3.52
	5.00–10.00	3	..	..	2[o]	5	8	9[la]	8	8	..	..	..	46	— 7.01	— 2.12
	10.00 and over	..	..	..	1	1	2	3	4[la]	3	1	2	1[sf]	18	—21.44	—10.96
Total	No. of City Bank-Years	23	8	10	28	41	69	79	63	33	18	5	7	384 384		
Total: Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+ 6.18	+ 2.36	+ 5.94	+ 4.16	+ 1.23	+ 1.84	— 0.53	— 0.98	— 3.51	+ 0.08	—21.52	— 7.97			
	Ratios: Demand Deposits to Total Deposits (Net)	+52.78	+33.14	+26.04	+17.50	+11.08	+ 3.46	— 4.08	—10.94	—18.72	—24.74	—32.38	—53.76			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 117

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO TOTAL DEPOSITS AND NET EARNINGS TO EARNING ASSETS FOR NATIONAL BANKS IN EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)							Total		
		Number of City Bank-Years							No. of City Bank-Years	Average Percentage Differences	
		Above the Average				Below the Average					
Position	Percentage Groups	22.50 and Over	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 and Over		Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	15.00 and over	2[sf][la]	2[sf]	..	3[sf][la]	..	..	..	7	+24.38	+17.95
	10.00–15.00	1	..	1[la]	1	..	..	..	3	+12.64	+21.53
	5.00–10.00	1	..	..	1	2	2[o]	..	6	+ 6.48	+ 2.21
	Under 5.00	..	..	1	5[o]	2[o]	1[la]	1	10	+ 1.95	— 1.41
Below the Average	Under 5.00	..	1	..	3[o]	4	4[o]	2	14	— 2.37	— 5.02
	5.00–10.00	..	1[o]	..	2	1[la]	..	1	5	— 7.58	— 0.01
	10.00 and over	..	1	..	..	..	1[la]	1[sf]	3	—24.24	— 7.87
Total	No. of City Bank-Years	4	5	2	15	9	8	5	48 / 48		
	Average Percentage Differences: Ratios: Net Earnings to Earning Assets	+16.17	+ 6.59	+ 7.08	+ 4.93	— 0.05	— 2.31	— 8.75			
	Average Percentage Differences: Ratios: Demand Deposits to Total Deposits (Net)	+41.86	+17.19	+11.40	+ 4.23	— 3.77	—11.90	—23.04			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 118

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Total Deposits and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	16	6	5	12	5	5	4	6	1	2	2	2	66	+50.00	+19.90
	40.00–50.00	11	1	4	3	5	3	1	2	2	2	2	..	36		
	30.00–40.00	10	3	3	2	2	6	2	1	3	2	5	6	45	+30.00	+4.71
	20.00–30.00	14	1	4	3	3	9	3	6	4	2	2	8	59		
	10.00–20.00	11	1	3	8	12	5	4	7	5	2	5	12	75	+10.00	—4.45
	Under 10.00	10	4	4	6	4	6	9	8	7	7	6	17	88		
Below the Average	Under 10.00	18	3	5	11	15	8	10	6	7	8	9	12	112	—10.00	—2.29
	10.00–20.00	7	4	4	7	5	13	11	12	10	7	4	14	98		
	20.00–30.00	5	4	3	4	5	8	9	3	11	4	7	7	70	—30.00	—9.88
	30.00–40.00	..	2	..	3	4	6	9	6	5	4	4	8	51		
	40.00–50.00	..	..	..	..	5	..	5	6	4	1	4	10	35	—50.00	—20.66
	50.00 and over	4	1	1	1	3	1	6	7	4	6	3	11	48		
Total	No. of Bank-Years	106	30	36	60	68	70	73	70	63	47	53	107	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Total Deposits (Net)	+14.63		+12.29		+2.10		—8.36		—8.64		—7.69				

TABLE 119

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—DEMAND DEPOSITS TO TOTAL DEPOSITS, AND NET EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	12	1	3	4	6	5	2	6	2	1	1	1	44	+50.00	+18.01
Above	40.00–50.00	10	6	5	8	3	5	1	5	..	3	2	1	49		
the	30.00–40.00	18	..	7	2	3	6	1	1	2	2	2	1	45	+30.00	+ 7.79
Aver-	20.00–30.00	8	3	1	5	4	8	4	2	5	4	4	11	59		
age	10.00–20.00	11	..	5	6	7	9	7	9	3	4	3	8	72	+10.00	— 1.24
	Under 10.00	14	4	2	12	6	7	4	5	8	9	5	17	93		
	Under 10.00	16	4	5	10	13	12	16	6	7	10	10	10	119	—10.00	— 5.32
Below	10.00–20.00	5	2	5	7	8	8	10	15	11	7	7	18	103		
the	20.00–30.00	5	5	2	7	4	11	6	7	11	5	6	10	79	—30.00	— 8.46
Aver-	30.00–40.00	1	3	1	1	5	7	7	7	6	4	1	8	51		
age	40.00–50.00	..	..	1	..	1	3	5	5	2	1	5	11	34	—50.00	—21.81
	50.00 and over	3	1	..	2	3	2	2	6	2	1	3	10	35		
Total	No. of Bank-Years	103	29	37	64	63	83	65	74	59	51	49	106	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Total Deposits (Net)	+13.48		+ 9.55		+ 1.85		— 7.01		— 5.00		—10.48				

TABLE 120

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Total Deposits and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00–50.00	30.00–40.00	20.00–30.00	10.00–20.00	Under 10.00	Under 10.00	10.00–20.00	20.00–30.00	30.00–40.00	40.00–50.00	50.00 and Over	No. of Bank-Years	Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	17	5	5	6	4	11	5	3	1	..	..	2	59	+50.00	+21.73
	40.00–50.00	9	5	5	2	4	5	1	2	..	2	3	1	39		
	30.00–40.00	9	2	5	4	4	6	3	1	1	3	5	3	46	+30.00	+ 5.80
	20.00–30.00	9	2	2	7	5	4	6	3	4	3	3	6	54		
	10.00–20.00	9	6	4	7	4	10	4	10	6	7	4	13	84	+10.00	— 4.21
	Under 10.00	12	4	2	7	4	4	8	8	5	4	5	17	80		
Below the Average	Under 10.00	10	5	8	11	10	12	15	3	11	8	5	9	107	—10.00	— 3.84
	10.00–20.00	9	3	3	3	6	8	13	6	9	8	8	15	91		
	20.00–30.00	5	3	1	3	8	9	12	15	6	12	6	11	91	—30.00	—11.80
	30.00–40.00	2	2	1	3	3	8	9	6	6	3	2	11	56		
	40.00–50.00	..	..	1	1	..	4	8	3	5	..	5	8	35	—50.00	—13.95
	50.00 and over	5	..	2	2	6	2	4	4	4	4	..	8	41		
Total	No. of Bank-Years	96	37	39	56	58	83	88	64	58	54	46	104	783 783		
Total Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Total Deposits (Net)	+14.55		+ 9.84		+ 2.16		— 8.42		— 9.64		— 7.73				

TABLE 121

Correlation of Percentage Differences of Ratios in Paired Series—Demand Deposits to Total Deposits and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Demand Deposits to Total Deposits (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Demand Deposits to Total Deposits	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	11	..	4	7	6	4	4	7	1	..	..	..	44	+50.00	+20.43
Above	40.00–50.00	13	6	5	6	2	4	3	1	2	1	3	2	48		
the	30.00–40.00	11	4	3	5	9	6	4	2	4	2	4	..	54	+30.00	+ 6.74
Aver-	20.00–30.00	10	2	4	3	7	3	2	2	4	3	5	10	55		
age	10.00–20.00	14	2	8	4	8	6	3	8	6	5	5	10	79	+10.00	— 1.49
	Under 10.00	13	2	6	5	10	2	5	10	9	5	8	14	89		
	Under 10.00	14	5	6	12	9	9	12	11	7	10	5	13	113	—10.00	— 3.42
Below	10.00–20.00	8	4	..	9	9	9	9	6	16	8	7	11	96		
the	20.00–30.00	3	2	4	5	4	11	12	7	16	5	3	12	84	—30.00	—12.50
Aver-	30.00–40.00	..	1	1	2	1	6	7	6	3	4	1	8	40		
age	40.00–50.00	1	..	..	1	..	4	10	2	5	2	3	10	38	—50.00	—20.31
	50.00 and over	4	..	1	2	2	3	4	3	4	4	5	11	43		
Total	No. of Bank-Years	102	28	42	61	67	67	75	65	77	49	49	101	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Demand Deposits to Total Deposits (Net)	+14.62		+ 9.95		+ 3.21		— 6.14		— 9.21		— 9.60				

TABLE 122

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—GROSS EARNINGS TO EARNING ASSETS AND TOTAL EXPENSE TO EARNING ASSETS IN NATIONAL BANKS IN EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)						Total		
		Number of City Bank-Years						No. of City Bank-Years	Average Percentage Differences	
		Above the Average			Below the Average				Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Position	Percentage Groups	10.00 and Over	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 and Over			
Above the Average	15.00 and over	5[sf]	..	..	..	..	..	5	+24.75	+24.00
	10.00–15.00	1[sf]	..	1	..	..	..	2	+13.05	+10.09
	5.00–10.00	..	1[sf]	3[o,la]	..	..	..	4	+ 6.12	+ 3.19
	Under 5.00	..	3[o,la]	7[o,la]	5[o]	1[la]	..	16	+ 1.89	+ 1.65
Below the Average	Under 5.00	..	..	3	6	2	..	11	— 2.82	— 1.94
	5.00–10.00	..	..	..	3[la]	3	1[la]	7	— 6.23	— 5.59
	10.00 and over	..	..	..	..	..	3[sf,o]	3	—20.24	—19.39
Total	No. of City Bank-Years	6	4	14	14	6	4	48 / 48		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+22.65	+ 7.10	+ 2.58	— 2.37	— 6.39	—17.06			
	Ratios: Gross Earnings to Earning Assets (Net)	+22.63	+ 4.10	+ 2.85	— 2.36	— 3.78	—16.76			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 123

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—GROSS EARNINGS TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS IN NATIONAL BANKS IN EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)							Total		
		Number of City Bank-Years								Average Percentage Differences	
		Above the Average				Below the Average					
Position	Percentage Groups	22.50 and Over	15.00 – 22.50	7.50 – 15.00	Under 7.50	Under 7.50	7.50 – 15.00	15.00 and Over	No. of City Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	15.00 and over	2^{sf}	2^{sf}	..	1^{sf}	..	..	..	5	+24.75	+26.62
	10.00–15.00	1	..	..	1^{sf}	..	..	..	2	+13.05	+24.60
	5.00–10.00	..	2^{sfo}	1^{la}	1^{o}	..	..	..	4	+ 6.12	+13.48
	Under 5.00	1^{la}	1	1	8^{o}	2^{ola}	3^{ola}	..	16	+ 1.89	+ 2.87
Below the Average	Under 5.00	..	..	..	2	5	3	1	11	— 2.82	— 5.62
	5.00–10.00	..	..	..	2^{la}	2	1^{la}	2	7	— 6.23	— 7.99
	10.00 and over	..	..	..	..	..	1^{o}	2^{sf}	3	—20.24	—23.01
Total	No. of City Bank-Years	4	5	2	15	9	8	5	48 / 48		
Total: Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+41.86	+17.19	+11.40	+ 4.23	— 3.77	—11.90	—23.04			
	Ratios: Gross Earnings to Earning Assets (Net)	+20.09	+10.94	+ 3.55	+ 2.44	— 2.84	— 2.53	—12.75			

sf San Francisco
o Oakland
la Los Angeles

TABLE 124

CORRELATION OF YEARLY CITY PERCENTAGE DIFFERENCES OF NATIONAL BANK RATIOS IN PAIRED SERIES FOR EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Independent Variable—Ratios: Gross Earnings to Earning Assets			No. of City Bank-Years	Dependent Variable—Net Percentage Differences in Ratios of							
Position	Distance from Averages			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Demand Deposits to Total Deposits	Time Deposits to Earning Assets	Time Deposits to Total Deposits	Total Expense to Earning Assets	Net Earnings to Earning Assets
	Percentage Groups	Average Percentage									
Above the Average	Total (Average)	+ 7.58	27	+0.80	—1.65	+ 2.91	+ 4.63	— 7.83	— 6.14	+ 6.65	+10.45
	15.00 and over	+24.75	5	+3.38	—5.08	+ 9.00	+14.67	—25.25	—20.95	+24.00	+26.62
	10.00–15.00	+13.05	2	+1.82	—0.71	+15.72	+16.58	—22.38	—21.96	+10.09	+24.60
	5.00–10.00	+ 6.12	4	+0.12	—4.87	+ 4.23	+10.43	—17.60	—14.77	+ 3.19	+13.48
	Under 5.00	+ 1.89	16	+0.04	+0.11	— 0.93	— 1.46	+ 1.87	+ 2.62	+ 1.65	+ 2.87
Below the Average	Under 5.00	— 2.82	11	—0.37	+1.06	+ 0.42	— 0.69	+ 0.93	+ 0.04	— 1.94	— 5.62
	5.00–10.00	— 6.23	7	+0.73	—0.87	+ 3.62	+ 4.59	— 7.42	— 6.67	— 5.59	— 7.99
	10.00 and over	—20.24	3	—1.59	+4.80	— 5.10	— 8.78	+15.02	+ 8.66	—19.39	—23.01
	Total (Average)	— 6.44	21	—0.18	+0.95	+ 0.70	— 0.09	+ 0.16	— 0.97	— 5.65	— 8.89

TABLE 125

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	4	1	..	..	..	..	..	..	..	..	..	..	5	+55.00	+53.00
	40.00–50.00	3	1	..	..	1	1	..	1	..	..	..	..	7	+45.00	+30.71
	30.00–40.00	4	2	2	3	2	..	1	..	..	..	..	..	14	+35.00	+34.28
	20.00–30.00	3	5	7	9	10	6	4	..	1	..	..	..	45	+25.00	+22.11
	10.00–20.00	..	..	8	21	26	19	20	3	1	..	..	..	98	+15.00	+11.43
	Under 10.00	..	..	4	17	42	63	37	14	3	2	..	..	182	+ 5.00	+ 5.33
Below the Average	Under 10.00	..	..	..	2	24	56	82	50	25	6	3	..	248	— 5.00	— 5.81
	10.00–20.00	..	..	..	..	4	18	37	47	30	10	1	1	148	—15.00	—13.11
	20.00–30.00	..	..	..	..	..	..	5	11	12	3	1	..	32	—25.00	—20.00
	30.00–40.00	..	..	..	..	..	..	..	..	1	2	1	..	4	—35.00	—35.00
Total	No. of Bank-Years	14	9	21	52	109	163	186	126	73	23	6	1	783 783		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+40.71	+32.77	+18.33	+13.85	+ 7.20	+ 1.50	— 2.53	— 8.49	—11.71	—13.70	—15.00	—15.00			

TABLE 126

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)											Total		
		Number of Banks											No. of Banks	Average Percentage Differences	
		Above the Average						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	2	..	..	..	..	..	..	..	..	..	..	2	+55.00	+55.00
	40.00–50.00	1	1	..	..	1	..	..	..	..	..	..	3	+45.00	+38.33
	30.00–40.00	3	1	..	1	1	..	..	..	..	..	..	6	+35.00	+41.67
	20.00–30.00	..	..	1	2	2	3	..	..	1	..	..	9	+25.00	+11.67
	10.00–20.00	..	..	6	8	5	8	7	1	1	..	..	36	+15.00	+12.50
	Under 10.00	..	..	3	4	18	18	12	6	1	..	..	62	+ 5.00	+ 6.29
Below the Average	Under 10.00	..	..	..	1	7	22	30	21	8	3	1	93	— 5.00	— 6.18
	10.00–20.00	..	..	..	..	3	6	11	14	13	3	1	51	—15.00	—16.55
	20.00–30.00	..	..	..	..	..	..	..	5	4	2	..	11	—25.00	—22.27
	30.00–40.00	..	..	..	..	..	..	..	..	..	1	..	1	—35.00	—35.00
Total	No. of Banks	6	2	10	16	37	57	60	47	28	9	2	274 274		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+43.33	+40.00	+13.00	+13.75	+ 5.81	+ 1.49	— 2.50	— 8.40	—10.36	—16.11	—10.00			

TABLE 127

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—GROSS EARNINGS TO EARNING ASSETS AND TOTAL EXPENSE TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1926

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets *(Percentage Differences)* Position	Percentage Groups	Ratios: Total Expense to Earning Assets *(Percentage Differences)* Number of Banks — Above the Average: 50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Below the Average: Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	Total: No. of Banks	Average Percentage Differences: Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	..	1	..	..	..	..	..	..	..	..	..	1	+55.00	+45.00
	40.00–50.00	2	..	..	..	..	1	..	1	..	..	..	4	+45.00	+25.00
	30.00–40.00	..	..	1	2	1	..	1	..	..	..	..	5	+35.00	+19.00
	20.00–30.00	2	5	3	1	6	1	2	..	..	..	..	20	+25.00	+27.50
	10.00–20.00	..	..	1	6	11	4	7	1	..	..	..	30	+15.00	+10.67
	Under 10.00	..	..	1	7	15	25	12	5	1	2	..	68	+ 5.00	+ 3.38
Below the Average	Under 10.00	..	..	..	..	11	17	30	13	9	1	2	83	— 5.00	— 5.36
	10.00–20.00	..	..	..	..	..	8	15	15	12	3	..	53	—15.00	—12.55
	20.00–30.00	..	..	..	..	..	..	4	5	4	..	1	14	—25.00	—17.14
	30.00–40.00	..	..	..	..	..	..	..	..	1	1	..	2	—35.00	—30.00
Total	No. of Banks	4	6	6	16	44	56	71	40	27	7	3	280 / 280		
Total: Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+35.00	+30.00	+21.67	+13.75	+ 8.41	+ 0.89	— 3.17	— 8.25	—13.15	—10.72	—11.67			

TABLE 128

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Banks													Average Percentage Differences	
		Above the Average						Below the Average						No. of Banks	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over			
Above the Average	50.00 and over	2	..	..	..	..	..	..	..	..	..	..	..	2	+55.00	+55.00
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..	....	....
	30.00–40.00	1	1	1	..	..	..	..	..	..	..	..	..	3	+35.00	+45.00
	20.00–30.00	1	..	3	6	2	2	2	..	..	..	..	..	16	+25.00	+21.25
	10.00–20.00	..	..	1	7	10	7	6	1	..	..	..	..	32	+15.00	+10.94
	Under 10.00	..	..	..	6	9	20	13	3	1	..	..	..	52	+ 5.00	+14.70
Below the Average	Under 10.00	..	..	..	1	6	17	22	16	8	2	..	..	72	— 5.00	— 5.83
	10.00–20.00	..	..	..	..	1	4	11	18	5	4	..	1	44	—15.00	—13.86
	20.00–30.00	..	..	..	..	..	..	1	1	4	1	..	..	7	—25.00	—22.14
	30.00–40.00	..	..	..	..	..	..	..	..	..	..	1	..	1	—35.00	—45.00
Total	No. of Banks	4	1	5	20	28	50	55	39	18	7	1	1	229 229		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+42.50	+35.00	+25.00	+14.00	+ 7.14	+ 2.20	— 1.77	— 8.84	—11.67	—13.57	—35.00	—15.00			

TABLE 129

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	4	2	..	..	..	..	..	1	..	..	..	..	7	+55.00	+42.14
	40.00–50.00	2	..	1	..	2	..	..	..	..	..	..	..	5	+45.00	+35.00
	30.00–40.00	5	2	3	2	1	..	..	..	..	..	..	..	13	+35.00	+41.15
	20.00–30.00	1	3	7	5	10	7	1	3	..	..	..	..	37	+25.00	+18.78
	10.00–20.00	..	2	12	20	28	18	17	7	1	..	..	..	105	+15.00	+12.43
	Under 10.00	..	..	2	12	34	68	46	12	3	1	..	..	178	+ 5.00	+ 3.93
Below the Average	Under 10.00	..	..	..	5	20	68	73	66	18	6	1	..	257	— 5.00	— 5.04
	10.00–20.00	..	..	..	..	3	18	38	43	27	10	1	1	141	—15.00	—12.94
	20.00–30.00	..	..	..	1	1	2	4	14	9	5	1	..	37	—25.00	—16.89
	30.00–40.00	..	..	..	..	..	..	..	..	1	1	1	..	3	—35.00	—35.00
Total	No. of Bank-Years	12	9	25	45	99	181	179	146	59	23	4	1	783 783		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+42.50	+31.67	+20.60	+11.22	+ 8.08	+ 0.69	— 2.93	— 7.05	—12.29	—14.56	—20.00	—15.00			

TABLE 130

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	50.00 and over	4	1	1	..	..	..	1	..	..	..	..	..	7	+55.00	+42.15
	40.00–50.00	2	..	2	..	1	1	..	..	..	..	..	..	6	+45.00	+33.33
	30.00–40.00	5	2	2	6	1	1	..	1	..	..	..	..	18	+35.00	+32.78
	20.00–30.00	1	8	6	6	10	3	3	2	..	..	..	..	39	+25.00	+22.95
	10.00–20.00	..	..	5	24	24	22	15	10	2	..	..	..	102	+15.00	+ 9.51
	Under 10.00	..	..	4	13	48	67	45	11	6	2	..	..	196	+ 5.00	+ 4.64
Below the Average	Under 10.00	..	..	1	2	21	63	68	67	18	9	1	1	251	— 5.00	— 5.96
	10.00–20.00	..	..	..	..	2	16	41	36	34	5	1	2	137	—15.00	—13.25
	20.00–30.00	..	..	..	..	..	..	4	11	6	3	..	..	24	—25.00	—18.33
	30.00–40.00	..	..	..	..	..	..	..	..	1	1	1	..	3	—35.00	—35.00
Total	No. of Bank-Years	12	11	21	51	107	173	177	138	67	20	3	3	783 783		
Total: Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+42.50	+29.55	+21.67	+15.20	+ 7.43	+ 1.53	— 2.68	— 6.23	—10.82	—11.00	—18.33	—11.67			

TABLE 131

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF GROSS EARNINGS TO EARNING ASSETS

(Percentage Differences from the Yearly Averages of All Banks)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	356	....	356	....	356	....	356	....	344	....	344	....	351	....	351	....
		Independent Variable: Av.	...	+13.00	...	+13.00	...	+13.00	...	+13.00	...	+12.88	...	+12.88	...	+13.06	...	+13.06
		Dependent Variable: Av.	...	+ 3.93	...	+ 6.21	...	+ 8.46	...	+ 4.16	...	— 0.84	...	— 4.71	...	+11.52	...	+ 8.02
	50.00 and over	+55.00	12	+ 6.67	12	+ 5.00	12	+13.33	12	+15.05	10	—13.00	10	—12.00	5	+53.00	5	+25.00
	40.00–50.00	+45.00													7	+30.71	7	+17.86
	30.00–40.00	+35.00	59	+ 3.81	59	+11.78	59	+13.98	59	+ 4.66	58	— 2.07	58	— 8.79	14	+34.28	14	+10.70
	20.00–30.00	+25.00													45	+22.11	45	+18.55
	10.00–20.00	+15.00	285	+ 3.84	285	+ 5.10	285	+ 7.11	285	+ 3.60	276	— 0.14	276	— 3.59	98	+11.43	98	+16.43
	Under 10.00	+ 5.00													182	+ 5.33	182	— 0.17
Below the Average	Under 10.00	— 5.00	403	— 2.05	403	— 4.40	403	— 7.01	403	— 2.17	393	+ 1.03	393	+ 3.27	248	— 5.81	248	— 2.94
	10.00–20.00	—15.00													148	—13.11	148	—16.76
	20.00–30.00	—25.00	40	—10.50	40	—11.50	40	—21.50	40	— 7.75	40	— 1.25	40	+ 5.75	32	—20.00	32	—33.12
	30.00–40.00	—35.00													4	—35.00	4	—35.00
	Total	Number of Bank-Years	443	....	443	....	443	....	443	....	433	....	433	....	432	....	432	....
		Dependent Variable: Av.	...	— 2.81	...	— 5.05	...	— 8.32	...	— 2.67	...	+ 0.82	...	+ 3.50	...	— 9.63	...	—10.21
		Independent Variable: Av.	...	—10.28	...	—10.28	...	—10.28	...	—10.28	...	—10.34	...	—10.34	...	—10.18	...	—10.18

TABLE 132

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR MEMBER BANKS IN CALIFORNIA FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF GROSS EARNINGS TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	355	....	355	....	355	....	355	....	342	....	342	....	349	....	349	....
		Independent Variable: Av.	...	+12.91	...	+12.91	...	+12.91	...	+12.91	...	+12.78	...	+12.78	...	+13.00	...	+13.00
		Dependent Variable: Av.	...	+ 4.27	...	+ 5.96	...	+ 9.25	...	+ 4.63	...	— 1.58	...	— 4.82	...	+11.39	...	+ 8.21
	50.00 and over	+55.00	10	+ 4.00	10	+ 6.00	10	+12.00	10	+12.00	8	— 6.25	8	— 3.75	5	+51.00	5	+25.00
	40.00–50.00	+45.00													5	+21.00	5	+45.00
	30.00–40.00	+35.00	56	+ 5.36	56	+11.07	56	+17.67	56	+ 9.82	55	— 6.45	55	—11.36	17	+35.59	17	+ 6.18
	20.00–30.00	+25.00													39	+24.23	39	+12.18
	10.00–20.00	+15.00	289	+ 4.07	289	+ 4.97	289	+ 7.53	289	+ 3.37	279	— 0.48	279	— 3.57	105	+10.62	105	+18.90
	Under 10.00	+ 5.00													178	+ 5.34	178	— 0.28
Below the Average	Under 10.00	— 5.00	402	— 2.64	402	— 4.03	402	— 7.56	402	— 3.13	393	+ 2.05	393	+ 4.31	249	— 5.44	249	— 3.19
	10.00–20.00	—15.00													146	—13.01	146	—15.89
	20.00–30.00	—25.00	41	— 7.93	41	—11.10	41	—23.05	41	—11.59	41	+ 3.29	41	+ 9.88	34	—18.82	34	—33.24
	30.00–40.00	—35.00													4	—35.00	4	—27.50
	40.00–50.00	—45.00	1	+35.00	1	—55.00	1	—15.00	1	+55.00	1	—11.00	1	—55.00	1	—45.00	1	—15.00
	50.00 and over	—55.00																
	Total	Number of Bank-Years	444	....	444	....	444	....	444	....	435	....	435	....	434	....	434	....
		Dependent Variable: Av.	...	— 3.04	...	— 4.80	...	— 9.01	...	— 3.78	...	+ 2.03	...	+ 4.70	...	— 9.40	...	—10.06
		Independent Variable: Av.	...	—10.41	...	—10.41	...	—10.41	...	—10.41	...	—10.45	...	—10.45	...	—10.30	...	—10.30

TABLE 133

Correlation of Percentage Differences of Various Ratios for Member Banks in California for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	347	....	347	....	347	....	347	....	335	....	335	....	345	....	345	....
		Independent Variable: Av.	...	+12.90	...	+12.90	...	+12.90	...	+12.90	...	+12.88	...	+12.88	...	+12.91	...	+12.91
		Dependent Variable: Av.	...	+ 5.11	...	+ 5.86	...	+ 6.15	...	+ 1.17	...	+ 2.07	...	— 1.39	...	+10.74	...	+ 8.86
	50.00 and over	+55.00	12	+10.83	12	+ 1.67	12	+13.33	12	+12.50	11	—15.91	11	—14.09	7	+42.14	7	+32.14
	40.00–50.00	+45.00													5	+35.00	5	+22.00
	30.00–40.00	+35.00	50	+ 3.40	50	+11.20	50	+15.80	50	+ 6.40	49	— 5.41	49	—10.51	13	+41.15	13	+ 0.39
	20.00–30.00	+25.00													37	+18.78	37	+22.57
	10.00–20.00	+15.00	285	+ 5.17	285	+ 5.10	285	+ 4.16	285	— 0.23	275	+ 4.13	275	+ 0.75	105	+12.43	105	+11.67
	Under 10.00	+ 5.00													178	+ 3.93	178	+ 3.93
Below the Average	Under 10.00	— 5.00	409	— 2.29	409	— 3.90	409	— 4.12	409	— 0.28	399	— 1.34	399	+ 0.89	257	— 5.04	257	— 5.58
	10.00–20.00	—15.00													141	—12.94	141	—14.79
	20.00–30.00	—25.00	43	—15.70	43	—11.28	43	—23.14	43	—11.28	43	+ 4.07	43	+11.51	37	—16.89	37	—26.08
	30.00–40.00	—35.00													3	—35.00	3	—35.00
	Total	Number of Bank-Years	452	....	452	....	452	....	452	....	442	....	442	....	438	....	438	....
		Dependent Variable: Av.	...	— 3.56	...	— 4.60	...	— 5.93	...	— 1.33	...	— 0.81	...	+ 1.92	...	— 8.79	...	—10.48
		Independent Variable: Av.	...	—10.15	...	—10.15	...	—10.15	...	—10.15	...	—10.18	...	—10.18	...	—10.11	...	—10.11

TABLE 134

Correlation of Percentage Differences of Various Ratios for Member Banks in California for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	370	....	370	....	370	....	370	....	361	....	361	....	368	....	368	....
		Independent Variable: Av.	...	+12.95	...	+12.95	...	+12.95	...	+12.95	...	+12.76	...	+12.76	:...	+12.96	...	+12.96
		Dependent Variable: Av.	...	+ 4.49	...	+ 5.43	...	+ 5.32	...	+ 0.70	...	+ 1.54	...	— 1.65	...	+10.49	...	+ 7.96
	50.00 and over	+55.00	13	+ 7.31	13	+ 5.77	13	+17.31	13	+16.54	11	—12.27	11	—12.27	7	+42.15	7	+36.43
	40.00–50.00	+45.00													6	+33.33	6	+30.00
	30.00–40.00	+35.00	57	+ 6.23	57	+10.96	57	+13.07	57	+ 3.25	56	+ 0.54	56	— 6.25	18	+32.78	18	+15.83
	20.00–30.00	+25.00													39	+22.95	39	+10.51
	10.00–20.00	+15.00	300	+ 4.03	300	+ 4.37	300	+ 3.33	300	— 0.47	294	+ 2.24	294	— 0.37	102	+ 9.51	102	+16.47
	Under 10.00	+ 5.00													196	+ 4.64	196	+ 0.61
Below the Average	Under 10.00	— 5.00	398	— 2.31	398	— 4.00	398	— 3.64	398	+ 0.20	385	— 0.66	385	+ 0.92	251	— 5.96	251	— 4.56
	10.00–20.00	—15.00													137	—13.25	137	—17.12
	20.00–30.00	—25.00	31	—17.90	31	—11.45	31	—22.42	31	—10.48	31	+ 4.35	31	+10.48	24	—18.33	24	—36.67
	30.00–40.00	—35.00													3	—35.00	3	—35.00
	Total	Number of Bank-Years	429	....	429	....	429	....	429	....	416	....	416	....	415	....	415	....
		Dependent Variable: Av.	...	— 8.44	...	— 4.53	...	— 5.00	...	— 0.57	...	— 0.29	...	+ 1.63	...	— 9.29	...	—10.78
		Independent Variable: Av.	...	— 9.75	...	— 9.75	...	— 9.75	...	— 9.75	...	— 9.86	...	— 9.86	...	— 9.43	...	— 9.43

TABLE 135

Correlation of Percentage Differences of Various Ratios for National Unit Banks and National Banks with Branches in California for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Posi-tion	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	316	....	316	....	316	....	316	....	303	....	303	....	310	....	310	....
		Independent Variable: Av.	...	+12.97	...	+12.97	...	+12.97	...	+12.97	...	+12.82	...	+12.82	...	+13.06	...	+13.06
		Dependent Variable: Av.	...	+ 4.65	...	+ 6.14	...	+ 9.11	...	+ 4.43	...	− 1.63	...	− 4.93	...	+11.22	...	+ 8.68
	40.00 and over	+50.00	9	+ 3.89	9	+ 6.11	9	+12.78	9	+13.89	7	− 9.29	7	− 5.00	9	+36.11	9	+32.78
	20.00–40.00	+30.00	49	+ 5.00	49	+11.73	49	+14.80	49	+ 6.02	48	− 3.96	48	− 8.75	49	+27.04	49	+11.12
	Under 20.00	+10.00	258	+ 4.61	258	+ 5.08	258	+ 7.91	258	+ 3.80	248	− 0.96	248	− 4.19	252	+ 7.26	252	+ 7.34
Below the Average	Under 20.00	−10.00	367	− 2.55	367	− 4.43	367	− 6.99	367	− 2.30	358	+ 1.54	358	+ 3.85	360	− 8.20	360	− 8.31
	20.00–40.00	−30.00	35	−11.29	35	− 9.29	35	−23.57	35	−14.43	35	+ 5.00	35	+12.43	32	−19.38	32	−36.65
	Total	Number of Bank-Years	402	....	402	....	402	....	402	....	393	....	393	....	392	....	392	....
		Dependent Variable: Av.	...	− 3.31	...	− 4.85	...	− 8.43	...	− 3.36	...	+ 1.84	...	+ 4.62	...	− 9.11	...	−10.61
		Independent Variable: Av.	...	−10.25	...	−10.25	...	−10.25	...	−10.25	...	−10.29	...	−10.29	...	−10.13	...	−10.13

TABLE 136

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR STATE UNIT BANKS AND STATE BANKS WITH BRANCHES IN THE FEDERAL RESERVE SYSTEM IN CALIFORNIA FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF GROSS EARNINGS TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	39	....	39	....	39	....	39	....	39	....	39	....	39	....	39	....
		Independent Variable: Av.	...	+12.44	...	+12.44	...	+12.44	...	+12.44	...	+12.44	...	+12.44	...	+12.44	...	+12.44
		Dependent Variable: Av.	...	+ 1.15	...	+ 4.50	...	+10.38	...	+ 6.28	...	— 1.15	...	— 3.97	...	+12.69	...	+ 4.49
	40.00 and over	+50.00	1	+ 5.00	1	+ 5.00	1	+ 5.00	1	— 5.00	1	+15.00	1	+ 5.00	1	+35.00	1	+55.00
	20.00–40.00	+30.00	7	+ 7.86	7	+ 6.43	7	+37.86	7	+36.43	7	—23.57	7	—29.29	7	+32.14	7	+ 5.00
	Under 20.00	+10.00	31	— 0.48	31	+ 4.03	31	+ 4.35	31	— 0.16	31	+ 3.39	31	+ 1.45	31	+ 7.58	31	+ 2.74
Below the Average	Under 20.00	—10.00	35	— 3.57	35	+ 0.14	35	—13.57	35	—11.86	35	+ 7.28	35	+ 9.00	35	— 8.71	35	— 3.57
	20.00–40.00	—30.00	6	+11.67	6	—21.67	6	—20.00	6	+ 5.00	6	— 6.67	6	— 5.00	6	—26.67	6	—11.67
	40.00 and over	—50.00	1	+35.00	1	—55.00	1	—15.00	1	+55.00	1	—55.00	1	—55.00	1	—45.00	1	—15.00
	Total	Number of Bank-Years	42	....	42	....	42	....	42	....	42	....	42	....	42	....	42	....
		Dependent Variable: Av.	...	— 0.48	...	— 4.29	...	—14.52	...	— 7.86	...	+ 3.81	...	+ 5.48	...	—12.14	...	— 5.00
		Independent Variable: Av.	...	—11.90	...	—11.90	...	—11.90	...	—11.90	...	—11.90	...	—11.90	...	—11.90	...	—11.90

TABLE 137

Correlation of Percentage Differences of Various Ratios for National and State Banks with Branches in the Federal Reserve System in California for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	35	....	35	....	35	....	35	....	35	....	35	....	34	....	34	....
		Independent Variable: Av.	...	+14.14	...	+14.14	...	+14.14	...	+14.14	...	+14.14	...	+14.14	...	+14.41	...	+14.41
		Dependent Variable: Av.	...	+ 2.14	...	+ 5.00	...	+11.57	...	— 8.14	...	— 1.29	...	— 6.43	...	+12.06	...	+ 5.59
	40.00 and over	+50.00	1	+15.00	1	+ 5.00	1	— 5.00	1	— 5.00	1	+25.00	1	+15.00	1	+ 5.00	1	+55.00
	20.00–40.00	+30.00	8	+ 8.75	8	+ 7.50	8	+41.25	8	+38.75	8	—25.00	8	—32.50	8	+27.50	8	+21.25
	Under 20.00	+10.00	26	— 0.39	26	+ 4.23	26	+ 3.10	26	— 0.77	26	+ 5.00	26	+ 0.77	25	+ 7.40	25	— 1.40
Below the Average	Under 20.00	—10.00	52	— 0.58	52	— 3.08	52	—10.79	52	— 6.73	52	+ 2.31	52	+ 4.81	52	— 7.69	52	— 6.54
	20.00–40.00	—30.00	2	± 0.00	2	—15.00	2	— 5.00	2	+15.00	2	—20.00	2	—15.00	2	—25.00	2	—15.00
	Total	Number of Bank-Years	54	....	54	....	54	....	54	....	54	....	54	....	54	....	54	....
		Dependent Variable: Av.	...	— 0.56	...	— 3.52	...	—10.65	...	— 5.93	...	+ 1.48	...	+ 4.07	...	— 8.33	...	— 6.85
		Independent Variable: Av.	...	— 8.33	...	— 8.33	...	— 8.33	...	— 8.33	...	— 8.33	...	— 8.33	...	— 8.33	...	— 8.33

TABLE 138

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR CALIFORNIA MEMBER BANKS LOCATED IN CITIES WITH POPULATION (1920) UNDER 2,500, FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF GROSS EARNINGS TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	160	....	160	....	160	....	160	....	152	....	152	....	158	....	158	....
		Independent Variable: Av.	...	+12.37	...	+12.37	...	+12.37	...	+12.37	...	+12.11	...	+12.11	...	+12.40	...	+12.40
		Dependent Variable: Av.	...	+ 6.75	...	+ 4.44	...	+ 8.13	...	+ 4.69	...	− 2.57	...	− 5.79	...	+10.38	...	+ 8.10
	40.00 and over	+50.00	3	+ 8.33	3	+18.33	3	+25.00	3	+11.67	2	± 0.00	2	± 0.00	3	+51.67	3	+48.33
	20.00–40.00	+30.00	22	+ 7.73	22	+12.73	22	+17.72	22	+ 5.00	21	− 0.71	21	− 9.29	22	+30.91	22	− 0.91
	Under 20.00	+10.00	135	+ 6.56	135	+ 2.78	135	+ 6.19	135	+ 4.48	129	− 2.91	129	− 5.31	133	+ 6.05	133	+ 8.68
Below the Average	Under 20.00	−10.00	175	− 4.26	175	− 3.34	175	− 6.26	175	− 2.89	172	+ 1.22	172	+ 3.26	168	− 7.98	168	− 8.39
	20.00–40.00	−30.00	19	−13.95	19	− 8.16	19	−22.89	19	−12.89	19	+ 7.63	19	+14.47	18	−18.33	18	−32.22
	Total	Number of Bank-Years	194	....	194	....	194	....	194	....	191	....	191	....	186	....	186	....
		Dependent Variable: Av.	...	− 5.21	...	− 3.81	...	− 7.89	...	− 3.86	...	+ 1.86	...	+ 4.37	...	− 8.98	...	−10.70
		Independent Variable: Av.	...	−10.15	...	−10.15	...	−10.15	...	−10.15	...	−10.18	...	−10.18	...	−10.16	...	−10.16

* Under 1,500 and 1,500 to 2,500.

TABLE 139

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) of 2,500–15,000 for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	99	....	99	....	99	....	99	....	95	....	95	....	99	....	99	....
		Independent Variable: Av.	...	+13.79	...	+13.79	...	+13.79	...	+13.79	...	+14.16	...	+14.16	...	+13.79	...	+13.79
		Dependent Variable: Av.	...	+ 4.70	...	+ 6.21	...	+10.45	...	+ 4.70	...	— 1.95	...	— 4.89	...	+10.05	...	+10.76
	40.00 and over	+50.00	6	+11.67	6	— 1.67	6	+10.00	6	+10.00	6	—16.67	6	—15.00	6	+36.67	6	— 3.33
	20.00–40.00	+30.00	14	+ 5.00	14	+10.00	14	+19.29	14	+15.00	14	—20.00	14	—19.29	14	+19.29	14	+27.14
	Under 20.00	+10.00	79	+ 4.11	79	+ 6.14	79	+ 8.92	79	+ 2.47	75	+ 2.60	75	— 1.40	79	+ 6.39	79	+ 8.92
Below the Average	Under 20.00	—10.00	118	— 0.08	118	— 4.49	118	— 5.85	118	— 1.10	114	+ 1.14	114	+ 3.68	117	— 7.56	117	— 9.96
	20.00–40.00	—30.00	14	—27.14	14	— 9.29	14	—37.14	14	—29.29	14	+21.43	14	+31.43	13	—16.54	13	—40.38
	Total	Number of Bank-Years	132	....	132	....	132	....	132	....	128	....	128	....	130	....	130	....
		Dependent Variable: Av.	...	— 2.95	...	— 5.00	...	— 9.17	...	— 4.09	...	+ 3.36	...	+ 6.72	...	— 8.46	...	—13.00
		Independent Variable: Av.	...	—10.23	...	—10.23	...	—10.23	...	—10.23	...	—10.23	...	—10.23	...	—10.08	...	—10.08

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* 2,500–5,000 and 5,000–15,000.

TABLE 140

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) of 15,000 and Over, for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	88	....	88	....	88	....	88	....	88	....	88	....	88	....	88	....
		Independent Variable: Av.	...	+12.84	...	+12.84	...	+12.84	...	+12.84	...	+12.84	...	+12.84	...	+12.84	...	+12.84
		Dependent Variable: Av.	...	+ 2.61	...	+ 8.07	...	— 2.84	...	— 9.20	...	+14.43	...	+10.00	...	+12.16	...	+ 8.07
	40.00 and over	+50.00	3	+11.67	3	— 8.33	3	+ 8.33	3	+18.33	3	—25.00	3	—21.67	3	+31.67	3	+55.00
	20.00–40.00	+30.00	14	— 5.00	14	+10.00	14	+ 9.29	14	± 0.00	14	+ 2.14	14	— 3.57	14	+20.00	14	+34.29
	Under 20.00	+10.00	71	+ 3.73	71	+ 8.38	71	— 5.70	71	—12.18	71	+18.52	71	+14.01	71	+ 9.78	71	+ 0.92
Below the Average	Under 20.00	—10.00	116	— 1.55	116	— 4.14	116	+ 0.52	116	+ 3.62	113	— 7.74	113	— 5.53	113	— 7.92	113	— 8.36
	20.00–40.00	—30.00	10	— 3.00	10	—20.00	10	— 4.00	10	+27.00	10	—27.00	10	—22.00	9	—20.56	9	+ 3.89
	Total	Number of Bank-Years	126	....	126	....	126	....	126	....	123	....	123	....	122	....	122	....
		Dependent Variable: Av.	...	— 1.67	...	— 5.40	...	+ 0.16	...	+ 5.48	...	— 9.31	...	— 6.87	...	— 8.85	...	— 7.46
		Independent Variable: Av.	...	—10.08	...	—10.08	...	—10.08	...	—10.08	...	—10.12	...	—10.12	...	—10.08	...	—10.08

* 15,000–50,000
50,000–100,000
100,000 and over

TABLE 141

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets Under $1,000,000, for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Yearly Averages of This Volume Group)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	225	....	225	....	225	....	225	....	216	....	216	....	223	....	223	....
		Independent Variable: Av.	...	+13.53	...	+13.53	...	+13.53	...	+13.53	...	+13.24	...	+13.24	...	+13.56	...	+13.56
		Dependent Variable: Av.	...	+ 5.80	...	+ 5.09	...	+ 8.69	...	+ 5.36	...	— 4.35	...	— 7.59	...	+10.42	...	+ 7.42
	40.00 and over	+50.00	7	+ 7.86	7	+10.71	7	+16.43	7	+15.00	5	— 5.00	5	— 5.00	7	+52.14	7	+15.00
	20.00–40.00	+30.00	39	+10.38	39	+11.67	39	+16.28	39	+ 5.77	38	— 3.95	38	—11.31	39	+27.31	39	+ 5.77
	Under 20.00	+10.00	179	+ 4.72	179	+ 3.44	179	+ 6.73	179	+ 4.89	173	— 4.42	173	— 6.85	177	+ 5.06	177	+ 7.49
Below the Average	Under 20.00	—10.00	227	— 2.75	227	— 4.12	227	— 7.25	227	— 2.53	218	+ 2.43	218	+ 3.95	220	— 9.58	220	— 8.82
	20.00–40.00	—30.00	22	—25.91	22	— 5.45	22	—28.18	22	—24.09	22	+19.55	22	+25.91	18	—16.67	18	—43.89
	Total	Number of Bank-Years	249	....	249	....	249	......	249	....	240	....	240	....	238	....	238	....
		Dependent Variable: Av.	...	— 4.80	...	— 4.24	...	— 9.09	...	— 4.44	...	— 4.00	...	+ 5.96	...	—10.13	...	—11.47
		Independent Variable: Av.	...	—10.10	...	—10.10	...	—10.10	...	—10.10	...	—10.21	...	—10.21	...	— 9.96	...	— 9.96

TABLE 142

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets of $1,000,000 to $3,000,000, for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	84	....	84	....	84	....	84	....	84	....	84	....	84	....	84	....
		Independent Variable: Av.	...	+10.71	...	+10.71	...	+10.71	...	+10.71	...	+10.71	...	+10.71	...	+10.71	...	+10.71
		Dependent Variable: Av.	...	+ 3.10	...	+ 4.05	...	+ 0.60	...	— 4.76	...	+ 8.91	...	+ 6.90	...	+10.12	...	+ 6.31
	40.00 and over	+50.00	3	+ 8.33	3	— 1.67	3	— 1.67	3	+ 1.67	3	— 8.33	3	— 1.67	3	+ 5.00	3	+55.00
	20.00–40.00	+30.00	7	+ 3.57	7	+10.71	7	— 3.57	7	—10.71	7	+17.86	7	+12.14	7	+26.43	7	+13.57
	Under 20.00	+10.00	74	+ 2.84	74	+ 3.65	74	+ 1.08	74	— 4.46	74	+ 8.78	74	+ 6.76	74	+ 8.78	74	+ 3.65
Below the Average	Under 20.00	—10.00	99	— 2.17	99	— 3.18	99	+ 1.26	99	+ 3.28	97	— 4.69	97	— 2.73	96	— 7.92	96	— 7.60
	20.00–40.00	—30.00	3	— 8.33	3	—11.67	3	—18.33	3	— 5.00	3	+ 1.67	3	+ 1.67	3	—18.33	3	—38.33
	Total	Number of Bank-Years	102	....	102	....	102	....	102	....	100	....	100	....	99	....	99	....
		Dependent Variable: Av.	...	— 2.35	...	— 3.43	...	+ 0.69	...	+ 3.04	...	— 4.50	...	— 2.60	...	— 8.23	...	— 8.54
		Independent Variable: Av.	...	— 8.43	...	— 8.43	...	— 8.43	...	— 8.43	...	— 8.50	...	— 8.50	...	— 8.43	...	— 8.43

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 143

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets of $3,000,000 and Over, for 1925, 1926, and 1927, Combined, with Ratios of Gross Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Total Expense to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	61	....	61	....	61	....	61	....	61	....	61	....	61	....	61	....
		Independent Variable: Av.	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85
		Dependent Variable: Av.	...	+ 1.56	...	+ 8.61	...	− 0.57	...	− 8.93	...	+12.21	...	+ 7.62	...	+11.23	...	+12.21
	40.00 and over	+50.00	3	+ 5.00	3	+ 1.67	3	+38.33	3	+35.00	3	−28.33	3	−35.00	3	+38.33	3	+55.00
	20.00–40.00	+30.00	11	− 6.82	11	+ 8.64	11	+12.27	11	+ 3.18	11	+ 5.00	11	− 0.45	11	+21.36	11	+34.09
	Under 20.00	+10.00	47	+ 3.30	47	+ 9.04	47	− 6.06	47	−14.57	47	+16.49	47	+12.23	47	+ 7.13	47	+ 4.36
Below the Average	Under 20.00	−10.00	72	− 1.11	72	− 4.72	72	+ 0.97	72	+ 4.58	70	− 7.43	70	− 3.43	72	− 6.11	72	−11.39
	20.00–40.00	−30.00	6	+ 6.67	6	−33.33	6	− 3.33	6	+36.67	6	−50.00	6	−41.67	6	−31.67	6	−13.33
	Total	Number of Bank-Years	78	....	78	....	78	....	78	....	76	....	76	....	78	....	78	....
		Dependent Variable: Av.	...	− 0.51	...	− 6.92	...	+ 0.64	...	+ 7.05	...	−10.79	...	− 6.45	...	− 8.08	...	−11.54
		Independent Variable: Av.	...	−10.38	...	−10.38	...	−10.38	...	−10.38	...	−10.53	...	−10.53	...	−10.38	...	−10.38

* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over.

TABLE 144

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	2	..	1	1	..	..	..	..	..	..	1	..	5	+55.00	+25.00
	40.00–50.00	4	..	..	..	..	1	..	..	..	..	1	1	7	+45.00	+17.86
	30.00–40.00	5	1	..	1	1	..	1	1	..	1	1	2	14	+35.00	+10.70
	20.00–30.00	15	5	4	4	..	3	1	3	2	3	1	4	45	+25.00	+18.55
	10.00–20.00	33	2	5	6	15	5	5	8	5	5	7	2	98	+15.00	+16.43
	Under 10.00	17	10	8	20	14	26	20	16	10	11	9	21	182	+ 5.00	— 0.17
Below the Average	Under 10.00	23	11	13	20	25	25	22	22	26	17	16	28	248	— 5.00	— 2.94
	10.00–20.00	7	1	5	8	12	9	20	14	15	9	13	35	148	—15.00	—16.76
	20.00–30.00	..	..	..	..	1	1	4	4	5	1	4	12	32	—25.00	—33.12
	30.00–40.00	..	..	..	..	..	..	..	2	..	..	..	2	4	—35.00	—35.00
Total	No. of Bank-Years	106	30	36	60	68	70	73	70	63	47	53	107	783 783		
Total: Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+11.32	+ 5.67	+ 3.61	+ 2.67	± 0.00	+ 0.57	— 3.77	— 2.57	— 4.84	— 0.11	— 1.23	— 6.40			

TABLE 145

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—GROSS EARNINGS TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Banks												No. of Banks	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	..	..	..	..	..	..	..	..	..	2	+55.00	+45.00
	40.00–50.00	2	..	..	..	..	..	..	..	..	..	..	1	3	+45.00	+18.33
	30.00–40.00	1	1	..	..	..	..	1	..	..	1	1	1	6	+35.00	—14.17
	20.00–30.00	4	2	1	..	..	1	1	..	..	..	..	..	9	+25.00	+38.33
	10.00–20.00	14	1	1	1	5	..	2	3	3	1	4	1	36	+15.00	+16.67
	Under 10.00	5	4	2	6	6	5	6	8	2	5	4	9	62	+ 5.00	— 5.56
Below the Average	Under 10.00	11	4	5	7	9	8	9	10	8	8	6	8	93	— 5.00	— 0.81
	10.00–20.00	3	1	1	2	6	3	2	5	7	3	3	15	51	—15.00	—18.14
	20.00–30.00	..	..	..	..	..	..	2	1	3	..	1	4	11	—25.00	—33.18
	30.00–40.00	..	..	..	..	..	..	..	1	..	..	..	..	1	—35.00	—15.00
Total	No. of Banks	41	13	11	16	26	17	23	28	23	18	19	39	274 274		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+10.12	+ 6.54	+ 5.91	— 1.25	— 1.15	— 3.53	— 0.22	— 3.57	— 7.51	— 0.56	+ 0.79	— 5.77			

TABLE 146

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1926

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)*												Total		
		Number of Banks													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Banks	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1	+55.00	+55.00
	40.00–50.00	2	..	..	..	..	1	..	..	..	..	1	..	4	+45.00	+17.50
	30.00–40.00	4	..	..	1	..	..	..	..	..	..	..	..	5	+35.00	+49.00
	20.00–30.00	6	2	1	1	..	..	..	1	2	3	1	3	20	+25.00	+ 5.00
	10.00–20.00	10	1	2	1	6	1	1	3	1	2	2	..	30	+15.00	+18.33
	Under 10.00	8	4	3	7	6	10	7	6	3	3	4	7	68	+ 5.00	+ 2.50
Below the Average	Under 10.00	6	3	5	8	8	11	4	5	11	7	3	12	83	— 5.00	— 4.76
	10.00–20.00	2	..	2	4	4	3	11	4	3	1	7	12	53	—15.00	—15.94
	20.00–30.00	..	..	..	..	1	..	..	2	1	..	3	7	14	—25.00	—40.00
	30.00–40.00	..	..	..	..	..	..	..	..	..	..	..	2	2	—35.00	—55.00
Total	No. of Banks	39	10	13	22	25	26	23	21	21	16	21	43	280 280		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+14.49	+ 7.00	+ 1.15	+ 0.45	— 0.20	+ 0.39	— 5.57	— 1.67	— 2.14	+ 4.38	— 3.57	— 8.72			

TABLE 147

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Banks													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Banks	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	1	..	..	..	..	..	..	1	..	2	+55.00	—12.50
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	...	....	....
	30.00–40.00	..	..	..	..	1	..	..	1	..	..	..	1	3	+35.00	—18.33
	20.00–30.00	5	1	2	3	..	2	..	2	..	..	..	1	16	+25.00	+24.38
	10.00–20.00	9	..	2	4	4	4	2	2	1	2	1	1	32	+15.00	+15.94
	Under 10.00	4	2	3	7	2	11	7	2	5	3	1	5	52	+ 5.00	+ 1.15
Below the Average	Under 10.00	6	4	3	5	8	6	9	7	7	2	7	8	72	— 5.00	— 3.61
	10.00–20.00	2	..	2	2	2	3	7	5	5	5	3	8	44	—15.00	—16.14
	20.00–30.00	..	..	..	..	..	1	2	1	1	1	..	1	7	—25.00	—19.29
	30.00–40.00	..	..	..	..	..	..	..	1	..	..	..	..	1	—35.00	—15.00
Total	No. of Banks	26	7	12	22	17	27	27	21	19	13	13	25	229 229		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+8.40	+2.14	+4.17	+7.73	+2.06	+2.41	—5.00	—2.14	—5.00	—5.00	—0.39	—3.40			

TABLE 148

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Gross Earnings to Earning Assets (Percentage Differences)		Ratios: Net Earnings to Earning Assets (Percentage Differences) — Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	4	..	1	..	1	..	..	..	..	..	1	..	7	+55.00	+32.14
	40.00–50.00	3	..	..	..	..	..	..	..	..	..	1	1	5	+45.00	+22.00
	30.00–40.00	1	3	1	..	1	..	1	1	1	1	1	2	13	+35.00	+ 0.39
	20.00–30.00	16	4	2	3	..	1	1	..	3	4	1	2	37	+25.00	+22.57
	10.00–20.00	26	5	7	7	10	10	6	10	9	8	2	5	105	+15.00	+11.67
	Under 10.00	23	8	8	20	13	28	24	15	10	4	7	18	178	+ 5.00	+ 3.93
Below the Average	Under 10.00	14	13	14	17	28	27	36	18	18	21	18	33	257	— 5.00	— 5.58
	10.00–20.00	8	2	5	8	5	15	15	15	17	14	11	26	141	—15.00	—14.79
	20.00–30.00	1	2	1	1	..	1	5	5	..	2	4	15	37	—25.00	—26.08
	30.00–40.00	..	..	..	..	..	1	..	..	..	..	..	2	8	—35.00	—35.00
Total	No. of Bank-Years	96	37	39	56	58	83	88	64	58	54	46	104	783 / 783		
Total — Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+11.25	+ 4.73	+ 2.95	+ 0.89	+ 1.55	— 1.27	— 2.95	— 2.81	— 0.86	— 1.67	— 2.83	— 6.44			

TABLE 149

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	4	1	1	..	..	..	..	..	..	..	1	..	7	+55.00	+36.43
Above	40.00–50.00	4	..	..	..	..	1	..	..	..	..	1	..	6	+45.00	+30.00
the	30.00–40.00	7	..	2	1	1	..	1	1	..	1	2	2	18	+35.00	+15.83
Aver-	20.00–30.00	9	3	6	3	1	4	..	2	2	3	2	4	39	+25.00	+10.51
age	10.00–20.00	31	7	6	3	12	8	7	8	9	5	4	2	102	+15.00	+16.47
	Under 10.00	22	2	13	22	20	23	19	20	21	6	7	21	196	+ 5.00	+ 0.61
Below the Average	Under 10.00	20	13	8	25	26	20	24	22	25	21	17	30	251	— 5.00	— 4.56
	10.00–20.00	5	2	6	6	7	11	19	10	19	12	11	29	137	—15.00	—17.12
	20.00–30.00	..	..	..	1	..	..	4	2	1	1	3	12	24	—25.00	—36.67
	30.00–40.00	..	..	..	..	..	..	1	..	..	..	1	1	3	—35.00	—35.00
Total	No. of Bank-Years	102	28	42	61	67	67	75	65	77	49	49	101	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+12.45	+ 5.36	+ 7.14	+ 0.41	+ 1.57	+ 1.72	— 4.07	— 0.08	— 1.88	— 1.94	— 0.92	— 6.09			

TABLE 150

Correlation of Percentage Year-to-Year Changes of Ratios in Paired Series —Gross Earnings to Earning Assets and Total Expense to Earning Assets in National Banks in Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

Ratios: Gross Earnings to Earning Assets (*Percentage Changes*)		Ratios: Total Expense to Earning Assets (*Percentage Changes*)						Total		
		Number of City Bank-Years						No. of City Bank-Years	Average Percentage Change	
		Increases			Decreases					
Direction of Change	Percentage Groups	10.00 and Over	5.00 – 10.00	Under 5.00	Under 5.00	5.00 – 10.00	10.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Increases	10.00 and over	$3^{o\,sf\,la}$	..	..	..	..	..	3	+13.00	+15.78
	5.00–10.00	1^{sf}	3^{la}	2^{o}	..	..	..	6	+ 6.48	+ 5.37
	Under 5.00	1	3^{o}	4^{la}	3	..	..	11	+ 2.57	+ 3.57
Decreases	Under 5.00	..	..	3	5	..	..	8	— 2.60	— 1.70
	5.00–10.00	..	..	..	$3^{sf\,la}$	2^{o}	..	5	— 7.64	— 5.88
	10.00 and over	..	..	..	..	..	$7^{sf\,o}$	7	—23.02	—20.80
Total	No. of City Bank-Years	5	6	9	11	2	7	40 / 40		
Total: Average Percentage Change	Ratios: Total Expense to Earning Assets	+14.18	+ 6.56	+ 1.90	— 3.19	— 8.27	—20.80			
	Ratios: Gross Earnings to Earning Assets (Net)	+10.19	+ 4.63	+ 1.39	— 2.79	— 6.68	—23.02			

^{sf} San Francisco
^{o} Oakland
^{la} Los Angeles

TABLE 151

CORRELATION OF YEAR-TO-YEAR PERCENTAGE CHANGES OF NATIONAL BANK RATIOS IN PAIRED SERIES FOR SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

Independent Variable— Ratios: Gross Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Year-to-Year Changes in Ratios of					
Direction	Amount of Change			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets
	Percentage Groups	Average Percentage							
Increasing	Total (Average)	+ 8.48	143	+0.39	+ 3.78	+ 1.73	+10.90	+ 8.16	+12.43
	25.00 and over	+39.36	7	—2.66	+13.98	+10.60	+18.37	+37.42	+43.13
	20.00–25.00	+22.62	6	+1.67	+ 5.57	+ 4.41	+10.46	+15.93	+43.28
	15.00–20.00	+17.11	13	+1.42	+ 4.89	+ 4.70	+ 8.25	+13.30	+42.68
	10.00–15.00	+11.93	15	+0.46	+ 6.40	+ 3.05	+18.20	+13.90	+ 7.57
	5.00–10.00	+ 6.97	39	+1.65	+ 3.41	+ 1.57	+11.49	+ 6.75	+ 8.89
	Under 5.00	+ 2.04	63	—0.40	+ 1.85	— 0.34	+ 8.55	+ 2.62	+ 3.18
Decreasing	Under 5.00	— 2.42	52	—2.17	— 0.18	— 2.17	+ 7.30	— 2.24	— 2.01
	5.00–10.00	— 7.19	52	— 1.04	+ 0.37	— 2.45	+12.37	— 4.21	—13.01
	10.00–15.00	—11.55	32	— 1.73	+ 0.15	— 1.85	+10.38	— 9.60	—14.76
	15.00–20.00	—17.18	19	— 3.25	— 0.44	+ 0.72	— 1.32	—15.07	—12.37
	20.00–25.00	—22.13	12	— 5.55	— 0.70	— 3.62	+32.36	—18.95	—24.44
	25.00 and over	—34.49	10	—6.47	— 2.24	— 9.41	+40.14	—29.12	—43.80
	Total (Average)	—10.20	177	—2.35	— 0.14	— 2.39	+11.98	— 8.18	—12.57

TABLE 152

CORRELATION OF PERCENTAGE YEAR-TO-YEAR CHANGES OF RATIOS IN PAIRED SERIES —GROSS EARNINGS TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS IN NATIONAL BANKS IN EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

Ratios: Gross Earnings to Earning Assets (*Percentage Changes*)		Ratios: Net Earnings to Earning Assets (*Percentage Changes*)						Total		
		Number of City Bank-Years						No. of City Bank-Years	Average Percentage Change	
		Increases			Decreases					
Direction of Change	Percentage Groups	20.00 and Over	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Increases	10.00 and over	. .	. .	3[sf][o][la]	. .	. .	. .	3	+13.00	+ 6.69
	5.00–10.00	1	1[la]	3[o]	1[sf]	. .	. .	6	+ 6.48	+11.06
	Under 5.00	2	1	2	3[o][la]	3	. .	11	+ 2.57	+ 0.38
Decreases	Under 5.00	. .	1	1	3	3	. .	8	— 2.60	— 5.15
	5.00–10.00	. .	. .	1[o]	1	2[sf][la]	1[la]	5	— 7.64	—11.87
	10.00 and over	. .	. .	. .	. .	1	6[sf][o]	7	—23.02	—27.89
Total	No. of City Bank-Years	3	3	10	8	6	7	40 / 40		
	Average Percentage Change: Ratios: Net Earnings to Earning Assets	+25.62	+14.67	+ 5.30	— 5.16	—14.96	—28.99			
	Average Percentage Change: Ratios: Gross Earnings to Earning Assets (Net)	+ 3.86	+ 3.63	+ 5.44	— 0.50	— 4.00	—21.54			

[sf] San Francisco
[o] Oakland
[la] Los Angeles

TABLE 153

CORRELATION OF YEAR-TO-YEAR PERCENTAGE CHANGES OF NATIONAL BANK RATIOS IN PAIRED SERIES FOR EIGHT RESERVE AND OTHER RESERVE CITIES IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1922–1927

Independent Variable—Ratios: Gross Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Year-to-Year Changes in Ratios of					
Direction	Amount of Change			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets
	Percentage Groups	Average Percentage							
Increasing	Total (Average)	+ 5.31	20	—1.42	+1.78	—1.78	+ 9.90	+ 5.99	+ 4.53
	10.00 and over	+13.00	3	+0.30	+3.69	—2.24	+25.95	+15.78	+ 6.69
	5.00–10.00	+ 6.48	6	—0.70	+1.12	—1.00	+ 5.52	+ 5.37	+11.06
	Under 5.00	+ 2.57	11	—2.29	+1.61	—2.08	+ 7.91	+ 3.57	+ 0.38
Decreasing	Under 5.00	— 2.60	8	—0.69	—1.61	—3.21	+ 0.96	— 1.70	— 5.15
	5.00–10.00	— 7.64	5	—2.00	+1.16	—1.19	+ 7.15	— 5.88	—11.87
	10.00 and over	—23.02	7	—1.30	+4.09	+0.66	+23.32	—20.80	—27.89
	Total (Average)	—11.00	20	—1.23	+1.08	—1.35	+10.33	— 9.43	—14.78

TABLE 154

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	1	..	1	..	..	..	1	3	6	14	+55.00	−27.14
	40.00–50.00	2	..	..	..	..	..	1	1	1	3	..	1	9	+45.00	−10.55
	30.00–40.00	..	..	..	1	1	1	1	3	1	2	5	6	21	+35.00	−31.19
	20.00–30.00	2	2	2	4	..	2	5	5	6	4	3	17	52	+25.00	−20.77
	10.00–20.00	7	5	2	2	15	6	5	11	7	11	13	25	109	+15.00	−15.83
	Under 10.00	16	1	6	14	9	19	18	13	16	14	12	25	163	+ 5.00	− 8.44
Below the Average	Under 10.00	29	6	5	14	17	25	17	21	17	6	11	18	186	− 5.00	+ 1.34
	10.00–20.00	13	9	12	13	16	10	18	7	10	6	5	7	126	−15.00	+ 7.06
	20.00–30.00	18	7	6	9	8	6	6	7	4	..	1	1	73	−25.00	+21.30
	30.00–40.00	13	..	2	2	1	..	2	1	1	..	..	1	23	−35.00	+32.39
	40.00–50.00	4	..	..	..	1	..	..	1	..	..	..	..	6	−45.00	+36.67
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1	−55.00	+55.00
Total	No. of Bank-Years	106	30	36	60	68	70	73	70	63	47	53	107	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	− 5.00	−15.00	−25.00	−35.00	−45.00	−55.00			
	Ratios: Total Expense to Earning Assets (Net)	−10.38	− 7.00	− 7.22	− 4.50	− 4.41	− 1.43	− 2.81	+ 0.57	+ 0.71	+10.11	+ 9.72	+11.73			

TABLE 155

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL EXPENSE TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR NATIONAL UNIT BANKS AND NATIONAL BANKS WITH BRANCHES IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	1	..	1	1	..	1	..	..	..	2	1	5	12	+50.00	—21.66
Above	40.00–50.00	1	..	..	..	..	..	1	1	2	2	1	1	9		
the	30.00–40.00	..	1	..	1	1	..	1	2	2	3	3	6	20	+30.00	—26.47
Aver-	20.00–30.00	3	..	1	3	1	2	2	5	5	3	5	18	48		
age	10.00–20.00	3	3	2	5	11	6	4	11	5	9	8	24	91	+10.00	—12.34
	Under 10.00	13	3	6	11	10	15	15	11	15	10	13	24	146		
	Under 10.00	28	5	5	16	15	28	12	15	16	11	7	15	173	—10.00	+ 4.65
Below	10.00–20.00	13	7	12	11	11	13	12	8	5	6	4	8	110		
the	20.00–30.00	16	8	4	8	7	5	7	8	3	..	1	1	68	—30.00	+24.10
Aver-	30.00–40.00	13	..	1	2	1	..	1	1	..	..	..	1	20		
age	40.00–50.00	4	..	..	..	..	..	..	..	..	..	..	..	4	—50.00	+55.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	96	27	32	58	57	70	55	62	53	46	43	103	702 702		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—11.10		— 4.67		— 2.87		— 1.32		+ 6.31		+10.96				

TABLE 156

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for State Unit Banks and State Banks with Branches, Members of the Federal Reserve System, in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Posi-tion	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	..	..	..	..	..	..	..	..	..	1	1	..	2	+50.00	—41.66
Above	40.00–50.00	..	..	..	..	..	..	..	..	..	..	1	..	1		
the	30.00–40.00	1	..	..	..	..	..	..	..	..	..	..	..	1	+30.00	— 8.33
Aver-	20.00–30.00	1	..	..	..	..	..	1	..	..	..	1	2	5		
age	10.00–20.00	1	1	..	..	2	..	1	2	2	2	..	..	11	+10.00	— 1.21
	Under 10.00	2	..	1	1	1	3	4	2	1	1	1	1	18		
Below	Under 10.00	1	..	1	2	2	6	3	1	1	1	..	..	18	—10.00	+ 3.05
	10.00–20.00	1	1	1	2	..	4	1	4	2	..	2	..	18		
the	20.00–30.00	..	..	1	1	..	..	..	2	..	..	..	..	4	—30.00	+13.00
Aver-	30.00–40.00	..	..	1	..	..	..	..	..	..	..	..	..	1		
age	40.00–50.00	..	..	..	..	1	..	..	1	..	..	..	..	2	—45.00	± 0.00
Total	No. of Bank-Years	7	2	5	6	6	13	10	12	6	5	6	3	81 81		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	+ 7.22		—12.27		— 5.00		— 4.09		+ 7.72		+17.22				

TABLE 157

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL EXPENSE TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR NATIONAL AND STATE BANKS WITH BRANCHES, MEMBERS OF THE FEDERAL RESERVE SYSTEM IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	..	..	..	..	1	1	..	2	+50.00	—40.00
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..		
	30.00–40.00	..	..	..	..	..	..	..	..	..	..	..	..	..	+30.00	— 6.66
	20.00–30.00	2	..	..	..	..	1	..	..	..	..	1	2	6		
	10.00–20.00	1	..	..	2	1	1	..	..	1	1	1	3	11	+10.00	— 7.58
	Under 10.00	3	..	1	1	..	1	4	3	3	2	..	2	20		
Below the Average	Under 10.00	1	..	..	3	1	7	4	2	2	5	1	1	27	—10.00	— 0.36
	10.00–20.00	1	1	2	2	..	4	1	2	1	..	..	..	14		
	20.00–30.00	..	1	1	1	..	1	..	2	..	..	..	..	6	—30.00	+23.75
	30.00–40.00	2	..	..	..	..	..	..	..	..	..	..	..	2		
Total	No. of Bank-Years	10	2	4	9	2	15	9	9	7	9	4	8	88 88		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	— 4.16		— 6.56		— 3.82		— 5.00		+ 3.75		+15.83				

TABLE 158

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in California, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	..	1	..	1	..	..	1	3	4	12	+55.00	—24.17
	40.00–50.00	2	..	..	..	..	..	..	1	1	2	..	3	9	+45.00	—18.33
	30.00–40.00	1	2	..	..	1	..	1	1	6	6	2	5	25	+35.00	—23.40
	20.00–30.00	..	2	2	3	..	3	2	5	6	4	2	16	45	+25.00	—24.33
	10.00–20.00	9	4	3	2	8	9	9	8	9	5	11	22	99	+15.00	—12.88
	Under 10.00	9	4	8	10	9	23	21	23	14	13	14	33	181	+ 5.00	—12.40
Below the Average	Under 10.00	26	8	5	17	16	22	26	9	14	17	9	10	179	— 5.00	+ 3.21
	10.00–20.00	22	7	10	16	18	14	21	11	8	6	4	9	146	—15.00	+ 8.63
	20.00–30.00	11	7	7	7	4	10	5	6	..	..	1	1	59	—25.00	+20.93
	30.00–40.00	12	2	3	1	1	1	2	..	..	..	..	1	23	—35.00	+36.30
	40.00–50.00	2	1	..	..	..	1	..	..	..	..	..	..	4	—45.00	+40.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1	—55.00	+55.00
Total	No. of Bank-Years	96	37	39	56	58	83	88	64	58	54	46	104	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	— 9.79	— 6.35	— 6.79	— 6.78	— 3.97	— 3.92	— 2.95	+ 1.25	+ 7.24	+ 7.78	+ 8.48	+11.35			

TABLE 159

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) under 2,500, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	..	..	..	1	..	..	1	1	2	7	+50.00	—19.29
	40.00–50.00	1	..	..	..	..	..	..	1	1	2	..	2	7		
	30.00–40.00	..	..	..	..	..	..	1	1	2	2	..	2	8	+30.00	—30.20
	20.00–30.00	..	..	1	2	..	..	..	1	3	2	1	7	17		
	10.00–20.00	..	..	3	1	5	4	3	4	2	4	6	9	41	+10.00	—12.61
	Under 10.00	4	2	3	5	6	9	9	11	6	5	7	9	76		
Below the Average	Under 10.00	13	3	1	11	10	12	9	2	4	14	3	6	88	—10.00	+ 4.47
	10.00–20.00	11	1	5	8	7	2	10	5	3	4	2	5	63		
	20.00–30.00	6	2	3	4	..	3	3	3	..	..	1	..	25	—30.00	+30.13
	30.00–40.00	8	1	2	1	..	..	..	..	..	..	..	..	12		
Total	No. of Bank-Years	44	9	19	32	28	30	36	28	21	34	21	42	344 344		
Total: Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—12.17		— 5.98		— 1.90		— 0.47		+ 7.36		+10.40				

* Under 1,500 and 1,500 to 2,500.

TABLE 160

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) of 2,500 to 15,000, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average						No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over			
Above the Average	50.00 and over	..	..	..	..	1	..	..	..	..	..	2	2	5	+50.00	—37.00
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..		
	30.00–40.00	..	1	..	..	1	..	..	..	1	1	1	3	8	+30.00	—23.33
	20.00–30.00	..	1	1	..	..	2	1	3	1	1	..	6	16		
	10.00–20.00	2	1	..	1	1	1	3	2	5	..	4	5	25	+10.00	—16.95
	Under 10.00	3	..	5	3	..	7	6	3	6	4	5	15	57		
Below the Average	Under 10.00	7	3	2	3	4	3	11	3	4	1	3	4	48	—10.00	+ 7.66
	10.00–20.00	9	3	2	3	7	7	1	2	3	..	1	4	42		
	20.00–30.00	5	3	..	1	3	2	1	2	..	..	..	..	17	—30.00	+26.20
	30.00–40.00	3	1	1	..	1	..	1	..	..	..	..	1	8		
	40.00–50.00	2	..	..	..	..	..	..	..	..	..	..	..	2	—50.00	+55.00
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	32	13	11	11	18	22	24	15	20	7	16	40	229 / 229		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—13.22		— 3.64		— 5.00		— 0.13		+ 6.48		+10.71				

* 2,500–5,000 and 5,000–15,000.

TABLE 161

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Located in Cities with Population (1920) of 15,000 and Over, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	1	..	..	..	..	..	..	..	..	..	..	1	2	+45.00	± 0.00
	30.00–40.00	1	1	..	..	..	..	..	..	3	3	1	..	9	+30.00	−17.38
	20.00–30.00	..	1	..	1	..	1	1	1	2	1	1	3	12		
	10.00–20.00	7	3	..	..	2	4	3	2	2	1	1	8	33	+10.00	− 8.08
	Under 10.00	2	2	..	2	3	7	6	9	2	4	2	9	48		
Below the Average	Under 10.00	6	2	2	3	2	7	6	4	6	2	3	..	43	−10.00	+ 5.59
	10.00–20.00	2	3	3	5	4	5	10	4	2	2	1	..	41		
	20.00–30.00	..	2	4	2	1	5	1	1	..	..	..	1	17	−30.00	+15.00
	30.00–40.00	1	..	..	..	..	1	1	..	..	..	..	..	3		
	40.00–50.00	..	1	..	..	..	1	..	..	..	..	..	..	2	−45.00	+25.00
Total	No. of Bank-Years	20	15	9	13	12	31	28	21	17	13	9	22	210 / 210		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Ratios: Total Expense to Earning Assets (Net)	+ 1.86		−11.81		− 5.70		− 2.96		+ 8.67		+10.16				

* 15,000–50,000
50,000–100,000
100,000 and over

TABLE 162

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL EXPENSE TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN CALIFORNIA, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	1	1	..	..	1	..	..	..	1	4	3	12	+55.00	—20.00
	40.00–50.00	1	..	..	..	..	..	1	1	1	2	2	3	11	+45.00	—28.64
	30.00–40.00	3	..	1	1	1	2	..	1	3	2	2	5	21	+35.00	—13.10
	20.00–30.00	4	..	3	2	2	1	1	8	11	5	3	11	51	+25.00	—17.75
	10.00–20.00	3	3	5	2	7	10	9	15	10	5	10	28	107	+15.00	—18.74
	Under 10.00	12	5	5	10	15	17	18	13	23	16	13	26	173	+ 5.00	—10.49
Below the Average	Under 10.00	21	3	12	17	16	15	18	17	17	15	10	16	177	— 5.00	— 0.99
	10.00–20.00	24	5	8	21	20	14	13	8	11	3	3	8	138	—15.00	+11.45
	20.00–30.00	15	10	5	7	6	7	12	2	1	..	1	1	67	—25.00	+22.91
	30.00–40.00	14	..	2	1	..	..	2	..	..	..	1	..	20	—35.00	+40.50
	40.00–50.00	1	1	..	..	..	..	1	..	..	..	..	..	3	—45.00	+31.67
	50.00 and over	3	..	..	..	..	..	..	..	..	..	..	..	3	—55.00	+55.00
Total	No. of Bank-Years	102	28	42	61	67	67	75	65	77	49	49	101	783 783		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	—11.08	— 9.28	— 2.62	— 7.30	— 3.95	— 1.12	— 5.40	+ 4.85	+ 5.39	+ 7.65	+10.51	+10.64			

TABLE 163

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Having Average Earning Assets under $1,000,000, 1925–1927

(Percentage Differences from the Yearly Averages of This Volume Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	1	1	..	..	1	..	..	..	1	4	3	12	+50.00	−26.05
	40.00–50.00	..	..	..	..	..	..	1	1	..	2	..	3	7		
	30.00–40.00	1	..	1	..	..	1	..	1	2	2	2	2	12	+30.00	−22.89
	20.00–30.00	1	..	1	1	1	1	1	4	3	3	3	7	26		
	10.00–20.00	2	2	2	2	6	3	4	6	4	3	6	17	57	+10.00	−15.89
	Under 10.00	7	2	3	6	12	6	8	2	12	12	10	20	100		
Below the Average	Under 10.00	15	3	6	12	12	8	6	3	9	9	6	14	103	−10.00	+ 4.52
	10.00–20.00	17	4	3	15	6	6	9	4	9	3	3	6	85		
	20.00–30.00	13	8	3	2	3	3	8	1	..	..	1	..	42	−30.00	+31.78
	30.00–40.00	11	..	1	..	..	..	1	..	..	..	1	..	14		
	40.00–50.00	..	1	..	..	..	..	..	..	..	..	..	..	1	−50.00	+51.67
	50.00 and over	2	..	..	..	..	..	..	..	..	..	..	..	2		
Total	No. of Bank-Years	70	21	21	38	40	29	38	22	39	35	36	72	461 461		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		−10.00		−30.00		−50.00				
	Ratios: Total Expense to Earning Assets (Net)	−13.13		− 4.66		− 0.94		− 0.83		+ 5.27		+10.28				

TABLE 164

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Having Average Earning Assets of $1,000,000 to $3,000,000, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years — Above the Average						Below the Average						Total		
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Average Percentage Differences — Ratios: Total Expense to Earning Assets	Average Percentage Differences — Ratios: Net Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	..	..	..	..	..	..	..	..	1	..	1	..	2	+45.00	—35.00
	30.00–40.00	..	..	..	..	..	1	..	..	1	..	..	3	5	+30.00	—23.95
	20.00–30.00	..	..	2	..	..	..	..	3	6	1	..	2	14		
	10.00–20.00	1	..	2	..	1	6	2	6	5	1	1	3	28	+10.00	— 8.23
	Under 10.00	2	3	..	2	1	6	6	7	6	2	3	2	40		
Below the Average	Under 10.00	4	..	6	2	1	4	7	12	5	3	2	..	46	—10.00	+ 3.46
	10.00–20.00	3	1	2	2	9	7	1	3	2	..	..	2	32		
	20.00–30.00	1	1	1	1	2	2	2	..	..	..	..	..	10	—30.00	+27.85
	30.00–40.00	3	..	1	..	..	..	..	..	..	..	..	..	4		
	40.00–50.00	1	..	..	..	..	..	..	..	..	..	..	..	1	—50.00	+55.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	16	5	14	7	14	26	18	31	26	7	7	12	183 / 183		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—14.05		— 4.52		— 4.75		+ 1.12		+ 9.55		+12.89				

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 165

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Having Average Earning Assets of $3,000,000 and Over, 1925–1927

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	1	..	..	..	..	..	..	..	..	..	1	..	2	+45.00	+ 5.00
	30.00–40.00	2	..	..	1	1	..	..	..	..	..	..	..	4	+30.00	+ 9.66
	20.00–30.00	3	..	..	1	1	..	..	1	2	1	..	2	11		
	10.00–20.00	..	1	1	..	..	1	3	3	1	1	3	8	22	+10.00	—13.91
	Under 10.00	3	..	2	2	2	5	4	4	5	2	..	4	33		
Below the Average	Under 10.00	2	..	..	3	3	3	5	2	3	3	2	2	28	—10.00	+ 5.82
	10.00–20.00	4	..	3	4	5	1	3	1	..	..	..	..	21		
	20.00–30.00	1	1	1	4	1	2	2	1	1	..	..	1	15	—30.00	+10.29
	30.00–40.00	..	..	..	1	..	..	1	..	..	..	..	..	2		
	40.00–50.00	..	..	..	..	..	..	1	..	..	..	..	..	1	—45.00	— 5.00
Total	No. of Bank-Years	16	2	7	16	13	12	19	12	12	7	6	17	139 / 139		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	+ 5.55		— 8.04		— 3.40		— 3.06		+ 4.47		+10.22				

* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 166

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earnings Assets for National Unit Banks in California, 1925

(Percentage Differences from the 1925 Average of This Bank-Class Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	..	1	..	..	..	..	..	..	1	..	1	4	+50.00	+ 8.33
	40.00–50.00	1	..	..	..	..	..	1	..	..	..	..	..	2		
	30.00–40.00	..	1	..	..	..	..	1	..	..	1	3	4	10	+30.00	—33.70
	20.00–30.00	..	..	1	..	..	..	1	2	2	..	1	6	13		
	10.00–20.00	1	..	..	..	3	2	1	3	2	4	3	10	29	+10.00	—13.68
	Under 10.00	7	1	2	3	3	2	7	4	3	5	4	6	47		
Below the Average	Under 10.00	7	2	1	5	7	7	5	7	7	1	..	4	53	—10.00	+ 5.45
	10.00–20.00	5	2	7	4	3	2	1	1	2	3	1	5	36		
	20.00–30.00	8	3	..	3	3	1	3	4	2	..	..	..	27	—30.00	+24.37
	30.00–40.00	4	..	..	..	..	..	..	1	..	..	..	..	5		
	40.00–50.00	2	..	..	..	..		..	..	..	..	..	..	2	—45.00	+55.00
Total	No. of Bank-Years	36	9	12	15	19	14	20	22	18	15	12	36	228 \ 228		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—10.33		— 9.71		— 4.39		— 0.71		+ 3.18		+12.71				

TABLE 167

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for National Unit Banks in California, 1926

(Percentage Differences from the 1926 Average of This Bank-Class Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	..	..	..	..	..	1	..	..	..	1	..	2	4	+50.00	—35.00
Above the Average	40.00–50.00	..	..	..	..	..	..	..	1	1	2	1	1	6		
	30.00–40.00	..	..	..	1	..	..	..	..	2	1	..	1	5	+30.00	—29.74
	20.00–30.00	1	..	..	1	..	..	..	1	1	2	2	6	14		
	10.00–20.00	2	3	1	1	5	1	2	6	2	2	2	7	34	+10.00	—11.05
	Under 10.00	2	1	1	4	5	7	3	2	6	3	3	10	47		
Below the Average	Under 10.00	12	3	1	6	5	9	4	4	3	1	5	6	59	—10.00	+ 5.75
	10.00–20.00	3	3	3	3	4	4	4	3	1	1	2	3	34		
	20.00–30.00	4	1	4	3	2	1	3	2	1	..	1	1	23	—30.00	+18.45
	30.00–40.00	4	..	..	1	..	..	..	..	..	..	..	1	6		
	40.00–50.00	2	..	..	..	..	..	..	..	..	..	..	..	2	—45.00	+55.00
Total	No. of Bank-Years	30	11	10	20	21	23	16	19	17	13	16	38	234 234		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	— 9.88		— 7.33		— 1.36		— 1.57		+13.33		+ 7.78				

TABLE 168

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for National Unit Banks in California, 1927

(Percentage Differences from the 1927 Average of This Bank-Class Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	1	..	..	..	..	..	..	1	2	4	+50.00	—31.00
	40.00–50.00	..	..	..	..	..	..	..	..	1	..	..	..	1		
	30.00–40.00	..	..	..	..	1	..	..	2	..	1	..	1	5	+30.00	—20.65
	20.00–30.00	1	..	..	2	1	1	1	2	2	1	1	6	18		
	10.00–20.00	..	..	1	2	3	2	1	2	1	3	2	4	21	+10.00	—11.67
	Under 10.00	3	1	2	3	2	6	4	4	4	1	6	6	42		
Below the Average	Under 10.00	8	..	3	4	3	8	1	3	5	5	1	4	45	—10.00	+ 4.88
	10.00–20.00	4	2	1	4	4	5	6	4	2	2	1	..	35		
	20.00–30.00	4	3	..	2	2	2	1	2	..	..	..	..	16	—30.00	+28.04
	30.00–40.00	3	..	1	1	1	..	1	..	..	..	..	..	7		
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..	—50.00	+55.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	24	6	8	19	17	24	15	19	15	13	12	23	195 / 195		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—14.00		— 2.04		— 3.05		— 1.47		+ 4.64		+13.86				

TABLE 169

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL EXPENSE TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR CALIFORNIA MEMBER BANKS HAVING AVERAGE EARNING ASSETS UNDER $1,000,000, 1925

(Percentage Differences from the 1925 Average of This Volume Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) — Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	1	1	..	..	..	..	..	..	..	1	2	1	6	+50.00	—12.14
	40.00–50.00	..	..	..	..	..	..	1	..	..	..	..	..	1		
	30.00–40.00	..	..	..	..	..	1	..	..	..	1	1	1	4	+30.00	—24.17
	20.00–30.00	1	..	1	..	..	..	..	1	1	..	1	3	8		
	10.00–20.00	..	..	..	1	2	..	2	2	1	1	3	8	20	+10.00	—20.72
	Under 10.00	4	1	..	2	3	1	3	2	3	7	1	9	36		
Below the Average	Under 10.00	5	1	2	4	2	2	3	..	4	2	1	5	31	—10.00	+ 6.02
	10.00–20.00	3	4	2	5	2	2	2	1	5	..	1	1	28		
	20.00–30.00	6	2	1	1	1	3	2	1	..	..	..	..	17	—30.00	+34.55
	30.00–40.00	5	..	..	..	..	..	..	..	..	..	..	..	5		
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..	—50.00	+55.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	26	9	6	13	10	9	13	7	14	12	10	28	157 / 157		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—11.57		— 7.10		— 5.00		+ 1.00		+ 3.46		+12.90				

TABLE 170

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Having Average Earning Assets under $1,000,000, 1926

(Percentage Differences from the 1926 Average of This Volume Group)

Ratios: Total Expense to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)* Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	..	..	..	1	..	..	..	..	1	1	3	+50.00	—39.28
	40.00–50.00	..	..	..	..	..	..	..	..	..	2	..	2	4		
	30.00–40.00	1	..	1	..	..	..	..	1	2	1	1	1	8	+30.00	—23.12
	20.00–30.00	..	..	..	..	..	..	1	1	2	1	1	2	8		
	10.00–20.00	1	2	..	..	2	..	..	3	2	2	2	6	20	+10.00	—14.12
	Under 10.00	2	1	2	3	5	4	2	..	4	2	5	7	37		
Below the Average	Under 10.00	5	..	2	2	5	2	2	..	3	4	2	5	32	—10.00	+ 2.76
	10.00–20.00	8	..	1	8	2	3	3	2	1	1	1	5	35		
	20.00–30.00	5	3	1	..	1	..	3	..	..	..	1	..	14	—30.00	+30.50
	30.00–40.00	4	..	1	..	..	..	..	..	..	..	1	..	6		
	40.00–50.00	..	..	..	..	..	..	..	..	..	..	..	..	..	—50.00	+55.00
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	..	1		
Total	No. of Bank-Years	27	6	8	13	15	10	11	7	14	13	15	29	168 / 168		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—13.49		— 7.38		— 0.20		— 1.11		+10.98		+ 7.73				

TABLE 171

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for California Member Banks Having Average Earning Assets under $1,000,000, 1927

(Percentage Differences from the 1927 Average of This Volume Group)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	..	..	1	..	..	..	..	..	..	..	1	1	3	+50.00	—27.00
	40.00–50.00	..	..	..	..	..	..	..	1	..	..	..	1	2		
	30.00–40.00	..	..	..	..	..	..	..	..	..	..	..	..	..	+30.00	—21.00
	20.00–30.00	..	..	..	1	1	1	..	2	..	2	1	2	10		
	10.00–20.00	1	..	2	1	2	3	2	1	1	..	1	3	17	+10.00	—12.15
	Under 10.00	1	..	1	1	4	1	3	..	5	3	4	4	27		
Below the Average	Under 10.00	5	2	2	6	5	4	1	3	2	3	3	4	40	—10.00	+ 5.00
	10.00–20.00	6	..	..	2	2	1	4	1	3	2	1	..	22		
	20.00–30.00	2	3	1	1	1	..	3	..	..	..	..	..	11	—30.00	+29.29
	30.00–40.00	2	..	..	..	..	..	1	..	..	..	..	..	3		
	40.00–50.00	..	1	..	..	..	..	..	..	..	..	..	..	1	— 45.00	+45.00
Total	No. of Bank-Years	17	6	7	12	15	10	14	8	11	10	11	15	136 136		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+50.00		+30.00		+10.00		—10.00		—30.00		—50.00				
	Ratios: Total Expense to Earning Assets (Net)	—15.00		+ 0.77		+ 1.40		— 2.27		+ 0.24		+10.77				

TABLE 172

CORRELATION OF YEARLY CITY PERCENTAGE DIFFERENCES OF NATIONAL BANK RATIOS IN PAIRED SERIES FOR SIXTY-FOUR CENTRAL RESERVE, RESERVE, AND OTHER RESERVE CITIES, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Independent Variable—Ratios: Total Expense to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Differences in Ratios of							
Position	Distance from Averages			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Demand Deposits to Total Deposits	Time Deposits to Earning Assets	Time Deposits to Total Deposits	Gross Earnings to Earning Assets	Net Earnings to Earning Assets
	Percentage Groups	Average Percentage									
Above the Average	Total (Average)	+ 7.78	189	+1.73	−0.17	+ 0.92	+ 1.11	− 3.09	− 3.39	+ 6.84	+ 3.95
	25.00 and over	+31.52	8	+4.81	+2.65	+ 5.59	+ 3.20	+ 2.98	− 0.89	+29.93	+25.33
	20.00–25.00	+21.90	8	+4.89	+0.58	+ 8.21	+ 8.51	−12.37	−13.31	+19.64	+ 9.66
	15.00–20.00	+17.12	6	+2.42	+2.92	+ 2.69	− 0.14	+ 5.11	+ 2.35	+12.80	− 0.06
	10.00–15.00	+12.18	27	+4.71	+0.35	+ 4.63	+ 4.47	− 7.28	− 8.51	+11.06	+ 8.81
	5.00–10.00	+ 7.52	56	+1.02	−1.84	− 3.49	− 1.78	− 1.15	− 0.47	+ 6.09	+ 1.86
	Under 5.00	+ 2.26	84	+0.60	+0.21	+ 1.40	+ 1.14	− 3.30	− 3.38	+ 2.14	+ 1.49
Below the Average	Under 5.00	− 2.26	98	−0.89	−0.52	− 1.52	− 0.87	+ 1.13	+ 1.33	− 2.47	− 3.42
	5.00–10.00	− 7.09	55	−0.98	+0.03	+ 1.23	+ 1.29	− 1.30	− 1.31	− 4.87	+ 0.84
	10.00–15.00	−12.23	31	−3.02	+1.02	− 0.16	− 1.04	+ 2.48	+ 1.17	− 9.78	− 1.74
	15.00–20.00	−16.53	5	−8.89	+0.65	+ 1.11	+ 0.18	+ 3.78	+ 3.67	−15.03	−11.00
	20.00–25.00	−20.94	4	− 2.40	−3.17	− 2.18	+ 1.43	− 6.12	− 4.31	−12.87	+10.11
	25.00 and over	−28.52	2	− 0.17	+5.97	−14.43	−18.58	+17.16	+38.30	− 31.58	−40.77
	Total (Average)	− 6.23	195	−1.48	−0.08	− 0.61	− 0.40	+ 1.05	+ 0.89	− 5.14	− 2.25

TABLE 173

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series for Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Independent Variable—Ratios: Total Expense to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Differences in Ratios of							
Position	Distance from Averages			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Demand Deposits to Total Deposits	Time Deposits to Earning Assets	Time Deposits to Total Deposits	Gross Earnings to Earning Assets	Net Earnings to Earning Assets
	Percentage Groups	Average Percentage									
Above the Average	Total (Average)	+ 8.35	24	+0.70	–1.18	+ 3.62	+ 4.84	– 7.99	– 6.69	+ 8.00	+ 6.96
	10.00 and over	+22.65	6	+2.99	–4.44	+10.74	+15.73	–26.56	–22.84	+22.63	+22.70
	5.00–10.00	+ 7.10	4	–1.78	–1.73	– 2.61	+ 0.65	+ 1.04	+ 0.38	+ 4.10	– 4.53
	Under 5.00	+ 2.58	14	+0.43	+0.38	+ 2.35	+ 1.36	– 2.60	– 1.79	+ 2.85	+ 3.51
Below the Average	Under 5.00	– 2.37	14	–0.89	–0.52	– 2.25	– 1.73	+ 2.09	+ 2.64	– 2.36	– 2.23
	5.00–10.00	– 6.39	6	+2.87	–0.48	+ 5.65	+ 6.27	– 9.72	– 9.41	– 3.78	+ 4.01
	10.00 and over	–17.06	4	–0.92	+3.41	+ 0.94	– 1.60	+ 3.13	– 1.51	–16.76	–16.41
	Total (Average)	– 5.82	24	+0.05	+0.15	+ 0.26	+ 0.29	– 0.69	– 1.06	– 5.12	– 2.99

TABLE 174

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Yearly Averages of All Banks)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	368	....	368	....	368	....	368	....	360	....	360	....	368	....	368	....
		Independent Variable: Av.	...	+15.38	...	+15.38	...	+15.38	...	+15.38	...	+15.19	...	+15.19	...	+15.38	...	+15.38
		Dependent Variable: Av.	...	+ 3.70	...	+ 6.41	...	+ 3.91	...	— 9.51	...	+ 5.47	...	+ 1.28	...	+ 8.15	...	—14.43
	50.00 and over	+55.00	23	+ 4.13	23	+13.26	23	+26.74	23	+17.17	21	—15.00	21	—22.14	14	+40.71	14	—27.14
	40.00–50.00	+45.00													9	+32.77	9	—10.55
	30.00–40.00	+35.00	73	+ 1.30	73	+11.85	73	+11.44	73	+ 2.81	72	+ 3.06	72	— 4.58	21	+18.33	21	—31.19
	20.00–30.00	+25.00													52	+13.85	52	—20.77
	10.00–20.00	+15.00	272	+ 4.30	272	+ 4.37	272	— 0.04	272	— 3.49	267	+ 7.73	267	+ 4.07	109	+ 7.20	109	—15.83
	Under 10.00	+ 5.00													163	+ 1.50	163	— 8.44
Below the Average	Under 10.00	— 5.00	312	— 2.28	312	— 3.14	312	— 6.86	312	— 3.40	304	+ 1.97	304	+ 4.34	186	— 2.53	186	+ 1.34
	10.00–20.00	—15.00													126	— 8.49	126	+ 7.06
	20.00–30.00	—25.00	96	— 2.71	96	—12.71	96	— 1.67	96	+12.29	90	—20.44	90	—13.78	73	—11.71	73	+21.30
	30.00–40.00	—35.00													23	—13.70	23	+32.39
	40.00–50.00	—45.00	7	+ 0.71	7	—27.86	7	+ 2.14	7	+45.00	7	—47.85	7	—45.00	6	—15.00	6	+36.67
	50.00 and over	—55.00													1	—15.00	1	+55.00
	Total	Number of Bank-Years	415	....	415	....	415	....	415	....	401	....	401	....	415	....	415	....
		Dependent Variable: Av.	...	— 2.33	...	— 5.77	...	— 5.50	...	+ 1.05	...	— 3.93	...	— 0.59	...	— 6.78	...	+ 8.95
		Independent Variable: Av.	...	—13.92	...	—13.92	...	—13.92	...	—13.92	...	—13.78	...	—13.78	...	—13.92	...	—13.92

TABLE 175

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	364	....	364	....	364	....	364	....	356	....	356	....	364	....	364	....
		Independent Variable: Av.	...	+15.47	...	+15.47	...	+15.47	...	+15.47	...	+15.28	...	+15.28	...	+15.47	...	+15.47
		Dependent Variable: Av.	...	+ 3.57	...	+ 6.48	...	+ 4.97	...	— 0.44	...	+ 5.14	...	+ 1.32	...	+ 7.88	...	—14.81
	50.00 and over	+55.00	24	+ 5.83	24	+15.42	24	+30.42	24	+17.92	22	—15.45	22	—23.64	14	+39.28	14	—25.00
	40.00–50.00	+45.00													10	+29.00	10	—23.00
	30.00–40.00	+35.00	74	+ 2.16	74	+ 9.86	74	+ 9.32	74	+ 1.22	73	+ 3.90	73	— 1.85	21	+20.71	21	—24.52
	20.00–30.00	+25.00													53	+12.17	53	—25.19
	10.00–20.00	+15.00	266	+ 3.76	266	+ 4.74	266	+ 1.47	266	— 2.56	261	+ 7.22	261	+ 4.31	102	+ 6.76	102	—16.08
	Under 10.00	+ 5.00													164	+ 1.59	164	— 8.05
Below the Average	Under 10.00	— 5.00	319	— 2.27	319	— 3.24	319	— 7.45	319	— 3.87	311	+ 2.46	311	+ 5.23	191	— 1.75	191	+ 3.17
	10.00–20.00	—15.00													128	— 9.22	128	+ 6.41
	20.00–30.00	—25.00	93	— 1.99	93	—12.42	93	— 3.60	93	+10.38	87	—19.14	87	— 1.27	72	—12.50	72	+19.58
	30.00–40.00	—35.00													21	—12.62	21	+36.90
	40.00–50.00	—45.00	7	— 2.14	7	—27.86	7	+ 2.14	7	+42.14	7	—46.43	7	—45.00	6	—18.33	6	+36.67
	50.00 and over	—55.00													1	—15.00	1	+55.00
	Total	Number of Bank-Years	419	....	419	....	419	....	419	....	405	....	405	....	419	....	419	....
		Dependent Variable: Av.	...	— 2.21	...	— 5.69	...	— 6.43	...	— 0.06	...	— 3.02	...	+ 0.51	...	— 6.69	...	+ 9.27
		Independent Variable: Av.	...	—13.69	...	—13.69	...	—13.69	...	—13.69	...	—13.59	...	—13.59	...	—13.69	...	—13.69

TABLE 176

Correlation of Percentage Differences of Various Ratios for National Unit Banks and National Banks with Branches in California for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	326	......	326	....	326	....	326	....	318	....	318	....	326	....	326	....
		Independent Variable: Av.	...	+15.52	...	+15.52	...	+15.52	...	+15.52	...	+15.31	...	+15.31	...	+15.52	...	+15.52
		Dependent Variable: Av.	...	+ 3.90	...	+ 6.59	...	+ 4.72	...	— 0.79	...	— 5.38	...	+ 1.64	...	+ 7.58	...	—15.89
	40.00 and over	+50.00	21	+ 5.00	21	+17.38	21	+28.81	21	+15.00	19	—12.37	19	—21.32	21	+35.48	21	—21.66
	20.00–40.00	+30.00	68	+ 1.91	68	+10.00	68	+10.14	68	+ 1.91	67	+ 2.91	67	— 2.76	68	+13.97	68	—26.47
	Under 20.00	+10.00	237	+ 4.37	237	+ 4.66	237	+ 1.03	237	— 2.97	232	+ 7.54	232	+ 4.78	237	+ 3.27	237	—12.34
Below the Average	Under 20.00	—10.00	283	— 2.24	283	— 3.55	283	— 6.91	283	— 3.02	275	+ 2.09	275	+ 4.82	283	— 4.54	283	+ 4.65
	20.00–40.00	—30.00	88	— 2.27	88	—12.16	88	— 3.41	88	+10.00	82	—19.27	82	—12.68	88	—12.05	88	+24.10
	40.00 and over	—50.00	5	—17.00	5	—19.00	5	+ 7.00	5	+37.00	5	—43.00	5	—41.00	5	— 9.00	5	+55.00
	Total	Number of Bank-Years	376	....	376	....	376	....	376	....	362	....	362	....	376	....	376	....
		Dependent Variable: Av.	...	— 2.45	...	— 5.77	...	— 5.90	...	+ 0.56	...	— 3.37	...	+ 0.22	...	— 6.36	...	+ 9.87
		Independent Variable: Av.	...	—13.70	...	—13.70	...	—13.70	...	—13.70	...	—13.59	...	—13.59	...	—13.70	...	—13.70

TABLE 177

Correlation of Percentage Differences of Various Ratios for State Unit Banks and State Banks with Branches in the Federal Reserve System in California for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	38	....	38	....	38	....	38	....	38	....	38	....	38	....	38	....
		Independent Variable: Av.	..	+15.00	..	+15.00	..	+15.00	..	+15.00	..	+15.00	..	+15.00	..	+15.00	..	+15.00
		Dependent Variable: Av.	..	+ 0.79	..	+ 5.53	..	+ 7.10	..	+ 2.63	..	+ 3.16	..	— 1.32	..	+10.53	..	— 5.53
	40.00 and over	+50.00	3	+11.67	3	+ 1.67	3	+41.67	3	+38.33	3	—35.00	3	—38.33	3	+31.67	3	—41.66
	20.00–40.00	+30.00	6	+ 5.00	6	+ 8.33	6	± 0.00	6	— 6.67	6	+15.00	6	+ 8.33	6	+21.67	6	— 8.33
	Under 20.00	+10.00	29	— 1.21	29	+ 5.35	29	+ 5.00	29	+ 0.86	29	+ 4.66	29	+ 0.52	29	+ 6.03	29	— 1.21
Below the Average	Under 20.00	—10.00	36	— 2.50	36	— 0.83	36	—11.67	36	—10.56	36	+ 5.28	36	+ 8.33	36	— 6.39	36	+ 3.05
	20.00–40.00	—30.00	5	+ 3.00	5	—17.00	5	— 7.00	5	+17.00	5	—17.00	5	—13.00	5	—21.00	5	+13.00
	40.00 and over	—50.00	2	+35.00	2	—50.00	2	—10.00	2	+55.00	2	—55.00	2	—55.00	2	—40.00	2	± 0.00
	Total	Number of Bank-Years	43	....	43	....	43	....	43	....	43	....	43	....	43	....	43	....
		Dependent Variable: Av.	..	— 0.12	..	— 5.00	..	+11.05	..	+ 4.30	..	— 0.12	..	+ 2.91	..	— 9.66	..	+ 4.07
		Independent Variable: Av.	..	—13.60	..	—13.60	..	—13.60	..	—13.60	..	—13.60	..	—13.60	..	—13.60	..	—13.60

TABLE 178

Correlation of Percentage Differences of Various Ratios for National and State Banks with Branches in the Federal Reserve System in California for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	39	....	39	....	39	....	39	....	39	....	39	....	39	....	39	....
		Independent Variable: Av.	..	+13.46	..	+13.46	..	+13.46	..	+13.46	..	+13.46	..	+13.46	..	+13.46	..	+13.46
		Dependent Variable: Av.	..	+ 0.39	..	+ 3.20	..	+ 4.48	..	+ 2.44	..	+ 3.20	..	+ 0.38	..	+ 9.62	..	— 9.10
	40.00 and over	+50.00	2	+15.00	2	— 5.00	2	+55.00	2	+55.00	2	—55.00	2	—55.00	2	+35.00	2	—40.00
	20.00–40.00	+30.00	6	+10.00	6	+ 5.00	6	+ 3.33	6	± 0.00	6	+ 6.67	6	± 0.00	6	+20.00	6	— 6.66
	Under 20.00	+10.00	31	— 2.74	31	+ 3.39	31	+ 1.45	31	— 0.48	31	+ 6.29	31	+ 4.03	31	+ 5.97	31	— 7.58
Below the Average	Under 20.00	—10.00	41	+ 2.32	41	— 2.07	41	—10.85	41	— 8.41	41	+ 4.51	41	+ 5.98	41	— 5.24	41	— 0.36
	20.00–40.00	—30.00	8	— 6.25	8	— 8.75	8	+ 7.50	8	+23.75	8	—31.25	8	—28.75	8	—15.00	8	+23.75
	Total	Number of Bank-Years	49	....	49	....	49	....	49	....	49	....	49	....	49	....	49	....
		Dependent Variable: Av.	..	+ 0.92	..	— 3.16	..	— 7.86	..	— 3.16	..	— 1.33	..	+ 0.31	..	— 6.84	..	+ 3.57
		Independent Variable: Av.	..	—11.53	..	—11.53	..	—11.53	..	—11.53	..	—11.53	..	—11.53	..	—11.53	..	—11.53

TABLE 179

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average		Number of Bank-Years	371	....	371	....	371	....	371	....	363	....	363	....	371	....	371	....
	Total	Independent Variable: Av.	...	+14.70	...	+14.70	...	+14.70	...	+14.70	...	+14.56	...	+14.56	...	+14.70	...	+14.70
		Dependent Variable: Av.	...	+ 3.68	...	+ 6.05	...	+ 1.71	...	— 3.60	...	+ 7.84	...	+ 4.31	...	+ 7.37	...	—15.24
	50.00 and over	+55.00	21	+ 5.48	21	+11.67	21	+19.76	21	+ 9.76	19	— 5.00	19	—11.32	12	+42.50	12	—24.17
	40.00–50.00	+45.00													9	+31.67	9	—18.33
	30.00–40.00	+35.00	70	+ 3.86	70	+11.86	70	+ 9.57	70	— 0.28	69	+ 6.88	69	— 0.07	25	+20.60	25	—23.40
	20.00–30.00	+25.00													45	+11.22	45	—24.33
	10.00–20.00	+15.00	280	+ 3.50	280	+ 4.18	280	— 1.60	280	— 5.43	275	+ 8.96	275	+ 6.49	99	+ 8.03	99	—12.88
	Under 10.00	+ 5.00													181	+ 0.69	181	—12.40
Below the Average	Under 10.00	— 5.00	325	— 1.86	325	— 3.52	325	— 4.82	325	— 1.23	317	— 1.21	317	+ 1.69	179	— 2.93	179	+ 3.21
	10.00–20.00	—15.00													146	— 7.05	146	+ 8.63
	20.00–30.00	—25.00	82	— 5.61	82	—11.34	82	+ 1.71	82	+14.27	76	—20.79	76	—15.53	59	—12.29	59	+20.93
	30.00–40.00	—35.00													23	—14.56	23	+36.30
	40.00–50.00	—45.00	5	+15.00	5	—37.00	5	+ 1.00	5	+43.00	5	—47.00	5	—43.00	4	—20.00	4	+40.00
	50.00 and over	—55.00													1	—15.00	1	+55.00
		Number of Bank-Years	412	....	412	....	412	....	412	....	398	....	398	....	412	....	412	....
	Total	Dependent Variable: Av.	...	— 2.40	...	— 5.49	...	— 3.45	...	+ 2.40	...	— 5.53	...	— 2.16	...	— 6.58	...	+10.00
		Independent Variable: Av.	...	—13.59	...	—13.59	...	—13.59	...	—13.59	...	—13.44	...	—13.44	...	—13.59	...	—13.59

TABLE 180

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) under 2,500, for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	156	....	156	....	156	....	156	....	150	....	150	....	156	....	156	....
		Independent Variable: Av.	...	+15.38	...	+15.38	...	+15.38	...	+15.38	...	+14.93	...	+14.93	...	+15.38	...	+15.38
		Dependent Variable: Av.	...	+ 5.64	...	+ 5.13	...	+ 7.12	...	+ 2.44	...	+ 1.00	...	— 2.67	...	+ 8.08	...	—16.02
	40.00 and over	+50.00	14	+ 2.86	14	+18.57	14	+27.14	14	+10.71	12	— 0.83	12	—11.67	14	+35.00	14	—19.29
	20.00–40.00	+30.00	25	+ 5.40	25	+12.60	25	+18.60	25	+ 5.80	24	+ 0.42	24	— 7.91	25	+14.20	25	—30.20
	Under 20.00	+10.00	117	+ 6.03	117	+ 1.92	117	+ 2.26	117	+ 0.73	114	+ 1.32	114	— 0.61	117	+ 3.55	117	—12.61
Below the Average	Under 20.00	—10.00	151	— 3.15	151	— 2.88	151	— 6.85	151	— 3.28	147	+ 1.73	147	+ 4.46	151	— 4.93	151	+ 4.47
	20.00–40.00	—30.00	37	— 8.78	37	—10.95	37	— 12.03	37	— 0.14	36	— 6.39	36	— 1.94	37	—12.03	37	+30.13
	Total	Number of Bank-Years	188	....	188	....	188	....	188	....	183	....	183	....	188	....	188	....
		Dependent Variable: Av.	...	— 4.25	...	— 4.47	...	— 7.87	...	— 2.66	...	+ 0.14	...	+ 3.20	...	— 6.33	...	+ 9.52
		Independent Variable: Av.	...	—12.93	...	—12.93	...	—12.93	...	—12.93	...	—12.87	...	—12.87	...	—12.93	...	—12.93

* Under 1,500 and 1,500 to 2,500.

TABLE 181

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR CALIFORNIA MEMBER BANKS LOCATED IN CITIES WITH POPULATION (1920) OF 2,500 TO 15,000 FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF TOTAL EXPENSE TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	111	....	111	....	111	....	111	....	109	....	109	....	111	....	111	....
		Independent Variable: Av.	...	+14.55	...	+14.55	...	+14.55	...	+14.55	...	+14.72	...	+14.72	...	+14.55	...	+14.55
		Dependent Variable: Av.	...	+ 1.67	...	+ 6.26	...	+ 0.59	...	— 5.27	...	+ 9.59	...	+ 7.11	...	+ 6.17	...	—19.23
	40.00 and over	+50.00	5	+13.00	5	— 3.00	5	+ 9.00	5	+11.00	5	—19.00	5	—17.00	5	+47.00	5	—37.00
	20.00–40.00	+30.00	24	+ 7.08	24	+11.25	24	+ 4.17	24	— 4.17	24	+ 7.92	24	+ 3.33	24	+14.58	24	—23.33
	Under 20.00	+10.00	82	— 0.61	82	+ 5.36	82	— 0.98	82	— 6.58	80	+11.88	80	+ 9.75	82	+ 1.22	82	—16.95
Below the Average	Under 20.00	—10.00	90	+ 1.00	90	— 3.78	90	— 5.89	90	— 2.67	87	+ 1.21	87	+ 4.31	90	— 3.22	90	+ 7.66
	20.00–40.00	—30.00	25	— 5.00	25	—11.40	25	+11.00	25	+23.80	22	—30.91	22	—25.45	25	—12.20	25	+26.20
	40.00 and over	—50.00	3	+ 1.67	3	—28.33	3	+ 1.67	3	+35.00	3	—41.67	3	—35.00	3	—11.67	3	+55.00
	Total	Number of Bank-Years	118	....	118	....	118	....	118	....	112	....	112	....	118	....	118	....
		Dependent Variable: Av.	...	— 0.25	...	— 6.02	...	— 2.12	...	+ 3.90	...	— 6.25	...	— 2.59	...	— 5.34	...	+12.80
		Independent Variable: Av.	...	—14.58	...	—14.58	...	—14.58	...	—14.58	...	—14.37	...	—14.37	...	—14.58	...	—14.58

* 2,500–5,000 and 5,000–15,000.

TABLE 182

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) of 15,000 and Over for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	104	....	104	....	104	....	104	....	104	....	104	....	104	....	104	....
		Independent Variable: Av.	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85	...	+13.85
		Dependent Variable: Av.	...	+ 2.88	...	+ 7.21	...	− 5.19	...	−10.87	...	+15.86	...	+11.44	...	+ 7.60	...	− 9.81
	40.00 and over	+50.00	2	+ 5.00	2	± 0.00	2	− 5.00	2	± 0.00	2	+ 5.00	2	+ 5.00	2	+35.00	2	± 0.00
	20.00–40.00	+30.00	21	− 1.67	21	+11.67	21	+ 5.00	21	− 3.10	21	+13.09	21	+ 5.00	21	+15.00	21	−17.38
	Under 20.00	+10.00	81	+ 4.01	81	+ 6.23	81	− 7.84	81	−13.14	81	+16.85	81	+13.27	81	+ 5.00	81	− 8.08
Below the Average	Under 20.00	−10.00	84	− 2.62	84	− 4.40	84	± 0.00	84	+ 4.05	83	− 8.97	83	− 5.96	84	− 6.19	84	+ 5.59
	20.00–40.00	−30.00	20	− 0.50	20	−12.00	20	+15.50	20	+29.00	18	−37.22	18	−30.56	20	−15.50	20	+15.00
	40.00 and over	−50.00	2	+35.00	2	−50.00	2	± 0.00	2	+55.00	2	−55.00	2	−55.00	2	−30.00	2	+25.00
	Total	Number of Bank-Years	106	....	106	....	106	....	106	....	103	....	103	....	106	....	106	....
		Dependent Variable: Av.	...	− 1.51	...	− 6.70	...	+ 2.92	...	+ 9.72	...	−14.80	...	−11.21	...	− 8.40	...	+ 7.73
		Independent Variable: Av.	...	−13.68	...	−13.68	...	−13.68	...	−13.68	...	−13.44	...	−13.44	...	−13.68	...	−13.68

* 15,000–50,000
50,000–100,000
100,000 and over

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR CALIFORNIA MEMBER BANKS FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF TOTAL EXPENSE TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	375	....	375	....	375	....	375	....	370	....	370	....	375	....	375	....
		Independent Variable: Av.	...	+15.03	...	+15.03	...	+15.03	...	+15.03	...	+14.78	...	+14.78	...	+15.03	...	+15.03
		Dependent Variable: Av.	...	+ 4.52	...	+ 6.60	...	+ 2.33	...	— 3.51	...	+ 7.24	...	+ 3.16	...	+ 8.33	...	—14.81
	50.00 and over	+55.00	23	+ 4.56	23	+11.09	23	+18.04	23	+ 9.78	21	— 7.86	21	—13.57	12	+42.50	12	—20.00
	40.00–50.00	+45.00													11	+29.55	11	—28.64
	30.00–40.00	+35.00	72	+ 4.58	72	+11.67	72	+10.83	72	± 0.00	71	+ 5.99	71	— 1.34	21	+21.67	21	—13.10
	20.00–30.00	+25.00													51	+15.20	51	—17.75
	10.00–20.00	+15.00	280	+ 4.50	280	+ 4.57	280	— 1.43	280	— 5.50	278	+ 8.70	278	+ 5.58	107	+ 7.43	107	—18.74
	Under 10.00	+ 5.00													173	+ 1.53	173	—10.49
Below the Average	Under 10.00	— 5.00	315	— 2.46	315	— 3.83	315	— 4.24	315	— 1.16	302	+ 0.40	302	+ 3.31	177	— 2.68	177	— 0.99
	10.00–20.00	—15.00													138	— 6.23	138	+11.45
	20.00–30.00	—25.00	87	— 6.72	87	—12.01	87	+ 1.67	87	+13.97	83	—24.03	83	—18.73	67	—10.82	67	+22.91
	30.00–40.00	—35.00													20	—11.00	20	+40.50
	40.00–50.00	—45.00	6	+ 3.33	6	—26.67	6	+ 5.00	6	+36.67	6	—46.67	6	—41.67	3	—18.33	3	+31.67
	50.00 and over	—55.00													3	—11.67	3	+55.00
	Total	Number of Bank-Years	408	....	408	....	408	....	408	....	391	....	391	....	408	....	408	....
		Dependent Variable: Av.	...	— 3.28	...	— 5.91	...	— 2.84	...	+ 2.97	...	— 5.51	...	— 2.06	...	— 5.81	...	+ 9.83
		Independent Variable: Av.	...	—13.80	...	—13.80	...	—13.80	...	—13.80	...	—13.80	...	—13.80	...	—13.80	...	—13.80

TABLE 184

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets under $1,000,000 for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Yearly Averages of This Volume Group)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	214	....	214	....	214	....	214	....	209	....	209	....	214	....	214	....
		Independent Variable: Av.	...	+15.89	...	+15.89	...	+15.89	...	+15.89	...	+15.48	...	+15.48	...	+15.89	...	+15.89
		Dependent Variable: Av.	...	+ 5.70	...	+ 6.87	...	+ 5.47	...	+ 0.05	...	+ 3.52	...	— 1.36	...	+ 8.97	...	—18.04
	40.00 and over	+50.00	19	+ 6.58	19	+13.42	19	+19.73	19	+ 9.21	17	— 6.76	17	—14.41	19	+37.11	19	—26.05
	20.00–40.00	+30.00	38	+ 5.26	38	+13.16	38	+14.74	38	+ 3.95	37	— 1.49	37	— 7.97	38	+17.63	38	—22.89
	Under 20.00	+10.00	157	+ 5.70	157	+ 4.55	157	+ 1.49	157	— 2.01	155	+ 5.84	155	+ 1.65	157	+ 3.47	157	—15.89
Below the Average	Under 20.00	—10.00	188	— 3.24	188	— 3.99	188	— 7.23	188	— 3.30	179	+ 2.99	179	+ 5.78	188	— 3.78	188	+ 4.52
	20.00–40.00	—30.00	56	— 6.96	56	—10.00	56	— 4.46	56	+ 8.21	52	—15.77	52	—10.00	56	— 9.28	56	+31.78
	40.00 and over	- 50.00	3	— 1.67	3	—25.00	3	+ 1.67	3	+35.00	3	- 51.67	3	—45.00	3	—11.67	3	+51.67
	Total	Number of Bank-Years	247	....	247	....	247	....	247	....	234	....	234	....	247	....	247	....
		Dependent Variable: Av.	...	— 4.07	...	— 5.61	...	— 6.50	...	— 0.22	...	— 1.88	...	+ 1.62	...	— 5.12	...	+11.27
		Independent Variable: Av.	...	—14.11	...	—14.11	...	—14.11	...	—14.11	...	—14.06	...	—14.06	...	—14.11	...	—14.11

TABLE 185

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR CALIFORNIA MEMBER BANKS HAVING AVERAGE EARNING ASSETS OF $1,000,000 TO $3,000,000 FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF TOTAL EXPENSE TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	89	....	89	....	89	....	89	....	89	....	89	....	89	....	89	....
		Independent Variable: Av.	..	+13.88	..	+13.88	..	+13.88	..	+13.88	..	+13.88	..	+13.88	..	+13.88	..	+13.88
		Dependent Variable: Av.	..	+ 4.78	..	+ 4.55	..	— 0.39	..	— 5.89	..	+ 9.94	..	+ 6.95	..	+ 6.46	..	—12.19
	40.00 and over	+50.00	2	± 0.00	2	+10.00	2	± 0.00	2	— 5.00	2	+15.00	2	+10.00	2	+25.00	2	—35.00
	20.00–40.00	+30.00	19	+ 5.53	19	+ 8.16	19	+ 0.26	19	— 8.16	19	+17.63	19	+10.80	19	+10.79	19	—23.95
	Under 20.00	+10.00	68	+ 4.71	68	+ 3.38	68	— 0.59	68	— 5.29	68	+ 7.65	68	+ 6.91	68	+ 4.71	68	— 8.23
Below the Average	Under 20.00	—10.00	78	— 1.54	78	— 2.31	78	— 0.64	78	+ 0.34	76	— 0.13	76	+ 1.58	78	— 4.49	78	+ 3.46
	20.00–40.00	—30.00	14	—14.28	14	—14.29	14	+12.86	14	+27.14	14	—35.71	14	—32.86	14	—10.00	14	+27.85
	40.00 and over	—50.00	2	—10.00	2	—15.00	2	+20.00	2	+30.00	2	—35.00	2	—30.00	2	—10.00	2	+55.00
	Total	Number of Bank-Years	94	....	94	....	94	....	94	....	92	....	92	....	94	....	94	....
		Dependent Variable: Av.	..	— 3.62	..	— 4.36	..	+ 1.81	..	+ 4.89	..	— 6.30	..	— 4.35	..	— 5.43	..	+ 8.19
		Independent Variable: Av.	..	—12.76	..	—12.76	..	—12.76	..	—12.76	..	—12.83	..	—12.83	..	—12.76	..	—12.76

* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 186

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets of $3,000,000 and Over for 1925, 1926, and 1927, Combined, with Ratios of Total Expense to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Net Earnings to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	72	....	72	....	72	....	72	....	72	....	72	....	72	....	72	....
		Independent Variable: Av.	..	+13.89	..	+13.89	..	+13.89	..	+13.89	..	+13.89	..	+13.89	..	+13.89	..	+13.89
		Dependent Variable: Av.	..	+ 0.69	..	+ 8.33	..	− 3.61	..	−16.11	..	+14.72	..	+10.56	..	+ 8.75	..	− 8.47
	40.00 and over	+50.00	2	−10.00	2	−10.00	2	+20.00	2	+30.00	2	−40.00	2	−30.00	2	+40.00	2	+ 5.00
	20.00–40.00	+30.00	15	+ 1.67	15	+12.33	15	+14.33	15	+ 0.33	15	+ 9.67	15	− 0.33	15	+23.67	15	+ 9.66
	Under 20.00	+10.00	55	+ 0.82	55	+ 7.91	55	− 9.36	55	−15.73	55	+18.09	55	+15.02	55	+ 3.55	55	−13.91
Below the Average	Under 20.00	−10.00	49	− 0.92	49	− 5.61	49	+ 1.53	49	+ 4.80	47	− 8.62	47	− 3.30	49	− 5.61	49	+ 5.82
	20.00–40.00	−30.00	17	+ 0.29	17	−16.77	17	+12.65	17	+ 3.03	17	−39.71	17	−33.82	17	−16.77	17	+10.29
	40.00 and over	− 50.00	1	+45.00	1	−55.00	1	−15.00	1	+55.00	1	−55.00	1	−55.00	1	−35.00	1	− 5.00
	Total	Number of Bank-Years	67	....	67	....	67	....	67	....	65	....	65	....	67	....	67	....
		Dependent Variable: Av.	..	+ 0.75	..	− 9.18	..	+ 4.10	..	+12.01	..	−17.46	..	−12.08	..	− 8.88	..	+ 6.79
		Independent Variable: Av.	..	−14.10	..	−14.10	..	−14.10	..	−14.10	..	−14.23	..	−14.23	..	−14.10	..	−14.10

* $3,000,000–$,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 187

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series for Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Independent Variable—Ratios: Net Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Differences in Ratios of							
Position	Distance from the Averages			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Demand Deposits to Total Deposits	Time Deposits to Earning Assets	Time Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets
	Percentage Groups	Average Percentage									
	Total (Average)	+16.32	179	+0.96	–0.99	+ 1.78	+ 2.87	— 7.06	— 6.74	+ 5.95	+ 2.22
Above the Average	37.50 and over	+52.78	23	+3.11	–2.43	+ 3.33	+ 6.18	–17.61	–16.80	+21.40	+10.23
	30.00–37.50	+33.14	8	–0.11	+0.13	+ 2.30	+ 2.36	— 5.03	— 5.65	+ 5.83	— 4.35
	22.50–30.00	+26.04	10	+5.52	–1.98	+ 3.72	+ 5.94	–24.99	–24.38	+ 8.03	+ 1.06
	15.00–22.50	+17.50	28	+1.58	–4.90	+ 3.31	+ 4.16	— 4.89	— 6.96	+ 8.11	+ 4.83
	7.50–15.00	+11.03	41	–0.17	+0.14	+ 1.48	+ 1.23	— 3.10	— 3.02	+ 3.76	+ 1.16
	Under 7.50	+ 3.46	60	+0.11	–1.36	+ 0.48	+ 1.84	— 4.41	— 3.07	+ 0.93	+ 0.06
Below the Average	Under 7.50	— 4.08	79	–0.05	+0.39	— 0.25	— 0.53	+ 0.78	+ 0.18	— 1.04	+ 0.05
	7.50–15.00	–10.94	63	–1.27	–0.01	— 1.00	— 0.98	+ 3.05	+ 3.00	— 3.98	— 1.29
	15.00–22.50	–18.72	33	–1.39	+2.32	— 1.09	— 3.51	+ 8.51	+ 6.27	— 6.08	— 1.42
	22.50–30.00	–24.74	18	–0.39	+0.79	+ 0.69	+ 0.03	+ 1.12	+ 0.48	— 6.45	— 1.22
	30.00–37.50	–32.38	5	–1.07	–0.10	–20.74	–21.52	+32.29	+33.76	— 9.41	— 1.22
	37.50 and over	–53.76	7	+1.27	+1.10	— 7.63	— 7.97	+24.24	+21.63	–11.31	+ 1.44
	Total (Average)	–12.75	205	–0.65	+0.63	— 1.29	— 1.86	+ 4.32	+ 3.60	— 3.78	— 0.69

TABLE 188

Correlation of Yearly City Percentage Differences of National Bank Ratios in Paired Series for Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

(Percentage Differences from the Respective City Averages, 1922–1927)

Independent Variable—Ratios: Net Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Differences in Ratios of							
Position	Distance from the Averages			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Demand Deposits to Total Deposits	Time Deposits to Earning Assets	Time Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets
	Percentage Groups	Average Percentage									
Above the Average	Total (Average)	+13.06	26	+1.29	—2.10	+ 5.00	+ 7.14	— 12.22	—10.02	+ 6.88	+ 4.78
	22.50 and over	+41.86	4	+3.48	—4.53	+10.76	+16.17	—27.40	—24.28	+20.09	+12.37
	15.00–22.50	+17.19	5	+1.77	—6.06	— 0.32	+ 6.59	—10.09	— 5.11	+10.94	+ 8.76
	7.50–15.00	+11.40	2	—0.09	—0.20	+ 6.87	+ 7.08	—11.78	—11.62	+ 3.55	+ 0.80
	Under 7.50	+ 4.23	15	+0.73	—0.38	+ 4.99	+ 4.93	— 8.92	— 7.61	+ 2.44	+ 1.97
Below the Average	Under 7.50	— 3.77	9	+1.32	—0.34	— 0.38	— 0.05	— 0.49	— 0.10	— 2.84	— 2.45
	7.50–15.00	—11.90	8	—2.35	+3.07	+ 0.69	— 2.31	+ 5.04	+ 1.92	— 2.53	+ 0.70
	15.00 and over	—23.04	5	—1.72	+1.68	— 7.78	— 8.75	+14.71	+11.96	—12.75	— 9.43
	Total (Average)	—11.10	22	—0.71	+1.36	— 1.68	— 2.85	+ 4.97	+ 3.38	— 4.98	— 2.89

TABLE 189

Correlation of Year-to-Year Percentage Changes of National Bank Ratios in Paired Series for Sixty-four Central Reserve, Reserve, and Other Reserve Cities, 1922–1927

Independent Variable—Ratios: Net Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Year-to-Year Changes in Ratios of					
Direction	Amount of Change			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Gross Earnings to Earning Assets	Total Expense to Earning Assets
	Percentage Groups	Average Percentage							
Increasing	Total (Average)	+21.24	137	—0.40	+2.43	+0.20	+10.98	+ 5.30	+1.14
	40.00 and over	+75.68	19	—4.04	+3.60	+0.98	+ 7.27	+16.27	+3.10
	30.00–40.00	+33.96	6	+0.09	+5.05	+5.35	+ 5.62	+ 9.70	+3.32
	20.00–30.00	+23.36	23	—0.33	+1.70	+0.37	+ 7.87	+ 6.60	+1.37
	10.00–20.00	+14.80	30	—0.25	+2.86	—0.45	+19.00	+ 4.11	+1.10
	Under 10.00	+ 4.87	59	+0.63	+1.85	—0.32	+ 9.85	+ 1.39	+0.22
Decreasing	Under 10.00	— 4.55	59	—0.44	+1.29	—1.03	+ 9.05	— 1.35	+0.16
	10.00–20.00	—14.04	55	—1.57	+1.51	+1.35	+ 6.21	— 5.55	—1.71
	20.00–30.00	—25.06	37	—2.87	—0.54	—3.95	+18.00	—10.50	—4.30
	30.00–40.00	—34.39	17	1.85	+1.83	—0.95	+14.78	—14.24	—7.05
	40.00 and over	— 51.46	15	—3.70	+0.82	—3.62	+25.40	—20.18	—4.89
	Total (Average)	—18.35	183	—1.67	+1.00	—1.11	+11.88	— 7.21	—2.39

TABLE 190

Correlation of Year-to-Year Percentage Changes of National Bank Ratios in Paired Series for Eight Reserve and Other Reserve Cities in the Twelfth Federal Reserve District, 1922–1927

Independent Variable—Ratios: Net Earnings to Earning Assets			No. of City Bank-Years	Dependent Variables—Net Percentage Year-to-Year Changes in Ratios of					
Direction	Amount of Change			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Gross Earnings to Earning Assets	Total Expense to Earning Assets
	Percentage Groups	Average Percentage							
Increasing	Total (Average)	+10.86	16	+0.11	+0.54	—2.59	+ 9.80	+ 4.80	+ 3.22
	20.00 and over	+25.62	3	—1.66	+1.77	+2.88	+ 0.15	+ 3.86	— 2.14
	10.00–20.00	+14.67	3	+1.67	—2.27	—9.31	+13.17	+ 3.63	+ 0.77
	Under 10.00	+ 5.30	10	+0.17	+1.02	—2.22	+11.69	+ 5.44	+ 5.56
Decreasing	Under 10.00	— 5.16	8	—4.51	+2.44	—1.02	+ 7.33	— 0.50	+ 1.22
	10.00–20.00	—14.96	9	—0.94	+1.63	+3.36	— 1.80	— 4.00	— 0.26
	20.00 and over	—28.99	7	—1.46	+2.03	—6.17	+29.35	—21.54	—18.39
	Total (Average)	—15.79	24	—2.28	+2.01	—8.79	+10.33	— 7.95	— 5.06

TABLE 191

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Yearly Averages of All Banks)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	370	....	370	....	370	....	370	....	353	....	353	....	370	....	370	....
		Independent Variable: Av.	...	+30.57	...	+30.57	...	+30.57	...	+30.57	...	+30.41	...	+30.41	...	+30.57	...	+30.57
		Dependent Variable: Av.	...	+ 2.65	...	— 1.22	...	+ 6.48	...	+ 9.35	...	—10.61	...	—10.61	...	+ 4.59	...	— 6.05
	50.00 and over	+55.00	136	— 0.15	136	— 1.62	136	+11.84	136	+14.63	130	—17.38	130	—18.15	106	+11.32	106	—10.38
	40.00–50.00	+45.00													30	+ 5.67	30	— 7.00
	30.00–40.00	+35.00	96	+ 4.27	96	— 1.04	96	+ 8.95	96	+12.29	88	—12.16	88	—12.27	36	+ 3.61	36	— 7.22
	20.00–30.00	+25.00													60	+ 2.67	60	— 4.50
	10.00–20.00	+15.00	138	+ 4.28	138	— 0.94	138	— 0.51	138	+ 2.10	135	— 3.07	135	— 2.26	68	± 0.00	68	— 4.41
	Under 10.00	+ 5.00													70	+ 0.57	70	— 1.43
Below the Average	Under 10.00	— 5.00	143	+ 1.08	143	— 0.32	143	— 9.75	143	— 8.36	139	+12.05	139	+11.98	73	— 3.77	73	— 2.81
	10.00–20.00	—15.00													70	— 2.57	70	+ 0.57
	20.00–30.00	—25.00	110	+ 0.27	110	+ 1.55	110	— 7.27	110	— 8.64	110	+10.09	110	+ 9.45	63	— 4.84	63	+ 0.71
	30.00–40.00	—35.00													47	— 0.11	47	+10.11
	40.00–50.00	—45.00	160	— 4.81	160	+ 1.81	160	— 6.56	160	— 7.69	159	+ 8.52	159	+ 7.96	53	— 1.23	53	+ 9.72
	50.00 and over	—55.00													107	— 6.40	107	+11.73
	Total	Number of Bank-Years	413	....	413	....	413	....	413	....	408	....	408	....	413	....	413	....
		Dependent Variable: Av.	...	— 1.42	...	+ 1.00	...	— 7.86	...	— 8.17	...	+10.15	...	+ 9.73	...	— 3.67	...	+ 5.15
		Independent Variable: Av.	...	—31.24	...	—31.24	...	—31.24	...	—31.24	...	—31.39	...	—31.39	...	—31.24	...	—31.24

TABLE 192

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	379	....	379	....	379	....	379	....	362	....	362	....	379	....	379	....
		Independent Variable: Av.	...	+29.62	...	+29.62	...	+29.62	...	+29.62	...	+29.55	...	+29.55	...	+29.62	...	+29.62
		Dependent Variable: Av.	...	+ 2.76	...	— 1.23	...	+ 5.11	...	+ 7.96	...	— 9.25	...	— 9.06	...	+ 4.21	...	— 6.13
	50.00 and over	+55.00	132	+ 0.83	132	— 1.59	132	+ 9.17	132	+13.48	127	—16.57	127	—16.81	103	+11.51	103	—10.42
	40.00–50.00	+45.00													29	+ 4.31	29	— 8.10
	30.00–40.00	+35.00	101	+ 3.81	101	— 0.64	101	+ 7.47	101	+ 9.55	94	— 9.04	94	— 9.36	37	+ 3.11	37	— 7.43
	20.00–30.00	+25.00													64	+ 3.13	64	— 4.37
	10.00–20.00	+15.00	146	+ 3.77	146	— 1.30	146	— 0.21	146	+ 1.85	141	— 2.80	141	— 1.88	63	+ 0.71	63	— 3.10
	Under 10.00	+ 5.00													83	— 0.90	83	— 3.19
Below the Average	Under 10.00	— 5.00	139	+ 0.68	139	— 0.97	139	— 8.67	139	— 7.01	135	+ 9.81	135	+10.93	65	— 3.15	65	— 2.38
	10.00–20.00	—15.00													74	— 4.60	74	— 1.22
	20.00–30.00	—25.00	110	+ 0.27	110	+ 1.91	110	— 3.60	110	— 5.00	110	+ 6.82	110	+ 6.27	59	— 3.14	59	+ 3.47
	30.00–40.00	—35.00													51	— 0.49	51	+ 9.90
	40.00–50.00	—45.00	155	— 5.13	155	+ 2.35	155	— 7.84	155	—10.48	154	+12.21	154	+11.62	49	— 1.53	49	+10.10
	50.00 and over	—55.00													106	— 6.60	106	+11.89
	Total	Number of Bank-Years	404	....	404	....	404	....	404	....	399	....	399	....	404	....	404	....
		Dependent Variable: Av.	...	— 1.66	...	+ 1.09	...	— 6.98	...	— 7.80	...	+ 9.91	...	+ 9.91	...	— 3.78	...	+ 5.49
		Independent Variable: Av.	...	—31.51	...	—31.51	...	—31.51	...	—31.51	...	—31.64	...	—31.64	...	—31.51	...	—31.51

TABLE 195

Correlation of Percentage Differences of Various Ratios for California Member Banks for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)

Posi-tion	Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets		Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	369	....	369	....	369	....	369	....	353	....	353	....	369	....	369	....
		Independent Variable: Av.	...	+29.79	...	+29.79	...	+29.79	...	+29.79	...	+29.42	...	+29.42	...	+29.79	...	+29.79
		Dependent Variable: Av.	...	+ 3.62	...	— 1.26	...	+ 6.03	...	+ 8.60	...	— 9.90	...	— 9.56	...	+ 3.81	...	— 6.44
	50.00 and over	+55.00	133	+ 1.62	133	— 1.77	133	+11.31	133	+14.55	126	—16.67	126	—17.70	96	+11.25	96	— 9.79
	40.00–50.00	+45.00													37	+ 4.73	37	— 6.35
	30.00–40.00	+35.00	95	+ 5.53	95	— 1.11	95	+ 7.74	95	+ 9.84	89	—11.97	89	—11.07	39	+ 2.95	39	— 6.79
	20.00–30.00	+25.00													56	+ 0.89	56	— 6.78
	10.00–20.00	+15.00	141	+ 4.22	141	— 0.89	141	— 0.11	141	+ 2.16	138	— 2.39	138	— 1.16	58	+ 1.55	58	— 3.97
	Under 10.00	+ 5.00													83	— 1.27	83	— 3.92
Below the Average	Under 10.00	— 5.00	152	+ 0.79	152	± 0.00	152	— 7.96	152	— 8.42	147	+11.73	147	+12.21	88	— 2.95	88	— 2.95
	10.00–20.00	—15.00													64	— 2.81	64	+ 1.25
	20.00–30.00	—25.00	112	— 3.04	112	+ 1.88	112	— 6.88	112	— 9.64	112	+11.25	112	+10.09	58	— 0.86	58	+ 7.24
	30.00–40.00	—35.00													54	— 1.67	54	+ 7.78
	40.00–50.00	—45.00	150	— 4.93	150	+ 1.60	150	— 6.87	150	— 7.73	149	+ 7.75	149	+ 7.75	46	— 2.83	46	+ 8.48
	50.00 and over	—55.00													104	— 6.44	104	+11.35
	Total	Number of Bank-Years	414	....	414	....	414	....	414	....	408	....	408	....	414	....	414	....
		Dependent Variable: Av.	...	— 2.32	...	+ 1.09	...	— 7.27	...	— 8.50	...	+10.15	...	+10.00	...	— 3.33	...	+ 5.39
		Independent Variable: Av.	...	—30.26	...	—30.26	...	—30.26	...	—30.26	...	—30.46	...	—30.46	...	—30.26	...	—30.26

TABLE 194

CORRELATION OF PERCENTAGE DIFFERENCES OF VARIOUS RATIOS FOR CALIFORNIA MEMBER BANKS FOR 1925, 1926, AND 1927, COMBINED, WITH RATIOS OF NET EARNINGS TO EARNING ASSETS

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
	Total	Number of Bank-Years	367	....	367	....	367	....	367	....	350	....	350	....	367	....	367	....
		Independent Variable: Av.	...	+30.53	...	+30.53	...	+30.53	...	+30.53	...	+30.28	...	+30.28	...	+30.53	...	+30.53
		Dependent Variable: Av.	...	+ 2.98	...	— 1.35	...	+ 7.09	...	+ 9.14	...	—11.00	...	—10.57	...	+ 5.35	...	— 6.23
Above the Average	50.00 and over	+55.00	130	+ 1.31	130	— 2.69	130	+10.92	130	+14.62	122	—18.44	122	—18.42	102	+12.45	102	—11.08
	40.00–50.00	+45.00													28	+ 5.36	28	— 9.28
	30.00–40.00	+35.00	103	+ 6.65	103	— 0.44	103	+ 8.69	103	+ 9.95	98	—10.10	98	—10.71	42	+ 7.14	42	— 2.62
	20.00–30.00	+25.00													61	+ 0.41	61	— 7.30
	10.00–20.00	+15.00	134	+ 1.79	134	— 0.75	134	+ 2.16	134	+ 3.21	130	— 4.69	130	— 3.08	67	+ 1.57	67	— 3.95
	Under 10.00	+ 5.00													67	+ 1.72	67	— 1.12
Below the Average	Under 10.00	— 5.00	140	— 0.29	140	— 0.29	140	— 6.28	140	— 6.14	136	+ 9.70	136	+ 9.63	75	— 4.07	75	— 5.40
	10.00–20.00	—15.00													65	— 0.08	65	+ 4.85
	20.00–30.00	—25.00	126	— 0.23	126	+ 1.59	126	— 6.90	126	— 9.21	126	+11.35	126	+10.24	77	— 1.88	77	+ 5.39
	30.00–40.00	—35.00													49	— 1.94	49	+ 7.65
	40.00–50.00	—45.00	150	— 3.80	150	+ 2.67	150	— 7.60	150	— 9.60	149	+10.91	149	+ 9.83	49	— 0.92	49	+10.51
	50.00 and over	—55.00													101	— 6.09	101	+10.64
	Total	Number of Bank-Years	416	....	416	....	416	....	416	....	411	....	411	....	416	....	416	....
		Dependent Variable: Av.	...	— 1.78	...	+ 1.35	...	— 6.95	...	— 8.32	...	+10.64	...	+ 9.89	...	— 2.91	...	+ 5.50
		Independent Variable: Av.	...	—30.65	...	—30.65	...	—30.65	...	—30.65	...	—30.78	...	—30.78	...	—30.65	...	—30.65

TABLE 195

Correlation of Percentage Differences of Various Ratios for National Unit Banks and National Banks with Branches in California for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	340	....	340	....	340	....	340	....	323	....	323	....	340	....	340	....
		Independent Variable: Av.	...	+30.21	...	+30.21	...	+30.21	...	+30.21	...	+30.17	...	+30.17	...	+30.21	...	+30.21
		Dependent Variable: Av.	...	+ 3.32	...	— 1.29	...	+ 5.65	...	+ 8.56	...	—10.17	...	— 9.89	...	+ 4.38	...	— 6.35
	40.00 and over	+50.00	123	+ 0.94	123	— 2.07	123	+ 8.17	123	+12.72	118	—16.78	118	—17.03	123	+ 9.15	123	—11.18
	20.00–40.00	+30.00	90	+ 4.33	90	± 0.00	90	+ 8.88	90	+10.44	83	— 9.70	83	—10.42	90	+ 3.89	90	— 4.67
	Under 20.00	+10.00	127	+ 4.92	127	— 1.46	127	+ 0.91	127	+ 3.19	122	— 4.10	122	— 2.62	127	+ 0.12	127	— 2.87
Below the Average	Under 20.00	—10.00	117	+ 1.07	117	— 0.73	117	— 9.10	117	— 7.99	113	+11.55	113	+12.70	117	— 3.55	117	— 1.32
	20.00–40.00	—30.00	99	— 0.56	99	+ 1.77	99	— 5.10	99	— 6.31	99	+ 8.43	99	+ 7.93	99	— 2.17	99	+ 6.31
	40.00 and over	—50.00	146	— 5.82	146	+ 2.26	146	— 7.05	146	— 9.59	145	+11.28	145	+10.86	146	— 5.34	146	+10.96
	Total	Number of Bank-Years	362	....	362	....	362	....	362	....	357	....	357	....	362	....	362	....
		Dependent Variable: Av.	...	— 2.15	...	+ 1.16	...	— 7.18	...	— 8.18	...	+10.57	...	+10.63	...	— 3.89	...	+ 5.72
		Independent Variable: Av.	...	—32.43	...	—32.43	...	—32.43	...	—32.43	...	—32.58	...	—32.58	...	—32.43	...	—32.43

TABLE 196

Correlation of Percentage Differences of Various Ratios for State Unit Banks and State Banks with Branches in the Federal Reserve System in California for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	39	......	39	......	39	......	39	......	39	......	39	......	39	......	39	......
		Independent Variable: Av.	..	+24.49	..	+24.49	..	+24.49	..	+24.49	..	+24.49	..	+24.49	..	+24.49	..	+24.49
		Dependent Variable: Av.	..	— 2.18	..	— 0.64	..	+ 0.38	..	+ 2.69	..	— 1.67	..	— 2.18	..	+ 2.69	..	— 4.23
	40.00 and over	+50.00	9	— 0.56	9	+ 5.00	9	+22.78	9	+23.89	9	—13.89	9	—13.88	9	+20.56	9	+ 7.22
	20.00–40.00	+30.00	11	— 0.46	11	— 5.91	11	— 4.09	11	+ 2.27	11	— 4.09	11	— 1.36	11	— 3.18	11	—12.27
	Under 20.00	+10.00	19	— 3.95	19	— 0.26	19	— 7.63	19	— 7.10	19	+ 5.53	19	+ 2.89	19	— 2.37	19	— 5.00
Below the Average	Under 20.00	—10.00	22	— 1.36	22	— 2.27	22	— 6.36	22	— 1.82	22	+ 0.91	22	+ 1.82	22	— 5.91	22	— 4.09
	20.00–40.00	—30.00	11	+ 7.73	11	+ 3.18	11	+ 9.54	11	+ 6.82	11	— 7.73	11	— 8.64	11	+ 0.45	11	+ 7.72
	40.00 and over	—50.00	9	+ 6.11	9	+ 3.89	9	— 2.05	9	—25.00	9	+27.22	9	+23.89	9	+ 0.55	9	+17.22
	Total	Number of Bank-Years	42	......	42	......	42	......	42	......	42	......	42	......	42	......	42	......
		Dependent Variable: Av.	..	+ 2.62	..	+ 0.48	..	— 5.24	..	— 4.52	..	+ 4.29	..	+ 3.81	..	— 2.86	..	+ 3.57
		Independent Variable: Av.	..	—23.57	..	—23.57	..	—23.57	..	—23.57	..	—23.57	..	—23.57	..	—23.57	..	—23.57

TABLE 197

Correlation of Percentage Differences of Various Ratios for National and State Banks with Branches in the Federal Reserve System in California for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Bank-Class Groups)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	42	....	42	....	42	....	42	....	42	....	42	....	42	....	42	....
		Independent Variable: Av.	..	+26.43	..	+26.43	..	+26.43	..	+26.43	..	+26.43	..	+26.43	..	+26.43	..	+26.43
		Dependent Variable: Av.	..	+ 0.71	..	+ 2.14	..	+ 3.33	..	+ 4.05	..	— 2.14	..	— 5.48	..	+ 4.76	..	— 4.76
	40.00 and over	+50.00	12	± 0.00	12	+ 2.50	12	+25.00	12	+27.50	12	—23.33	12	—28.33	12	+13.33	12	— 4.16
	20.00–40.00	+30.00	13	— 1.15	13	+ 3.46	13	+ 5.76	13	+ 5.77	13	+ 0.38	13	— 3.46	13	+ 2.69	13	— 6.56
	Under 20.00	+10.00	17	— 0.88	17	+ 0.88	17	—13.82	17	—13.82	17	—10.88	17	+ 9.12	17	+ 0.29	17	— 3.82
Below the Average	Under 20.00	—10.00	18	— 1.67	18	— 3.33	18	— 6.11	18	— 0.56	18	— 2.22	18	+ 0.56	18	— 6.67	18	— 5.00
	20.00–40.00	—30.00	16	+ 5.63	16	— 2.50	16	— 8.12	16	— 5.62	16	+ 3.75	16	+ 6.88	16	— 3.13	16	+ 3.75
	40.00 and over	—50.00	12	+ 2.50	12	— 1.67	12	— 9.17	12	—10.83	12	+10.83	12	+11.67	12	+ 0.83	12	+15.83
	Total	Number of Bank-Years	46	....	46	....	46	....	46	....	46	....	46	....	46	....	46	....
		Dependent Variable: Av.	..	+ 1.96	..	— 2.61	..	— 7.61	..	— 5.00	..	+ 3.26	..	+ 5.65	..	— 3.48	..	+ 3.45
		Independent Variable: Av.	..	—28.04	..	—28.04	..	—28.04	..	—28.04	..	—28.04	..	—28.04	..	—28.04	..	—28.04

TABLE 198

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) under 2,500 for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	162	....	162	....	162	....	162	....	156	....	156	....	162	....	162	....
		Independent Variable: Av.	...	+30.00	...	+30.00	...	+30.00	...	+30.00	...	+29.42	...	+29.42	...	+30.00	...	+30.00
		Dependent Variable: Av.	...	+ 3.40	...	— 1.48	...	+ 2.04	...	+ 4.94	...	— 7.50	...	— 6.92	...	+ 3.95	...	— 6.54
	40.00 and over	+50.00	53	+ 1.79	53	— 2.17	53	+ 1.79	53	+ 6.13	50	— 8.20	50	— 9.00	53	+ 8.21	53	—12.17
	20.00–40.00	+30.00	51	+ 7.55	51	— 2.26	51	+ 5.98	51	+ 8.92	48	—12.50	48	—11.67	51	+ 2.65	51	— 5.98
	Under 20.00	+10.00	58	+ 1.21	58	— 0.17	58	— 1.21	58	+ 0.34	58	— 2.76	58	— 1.21	58	+ 1.21	58	— 1.90
Below the Average	Under 20.00	—10.00	64	— 1.56	64	— 1.56	64	—10.15	64	— 8.75	60	+13.17	60	+16.16	64	— 2.66	64	— 0.47
	20.00–40.00	—30.00	55	— 3.18	55	+ 1.73	55	— 0.45	55	— 4.09	55	+ 5.54	55	+ 3.55	55	— 1.36	55	+ 7.36
	40.00 and over	—50.00	63	— 3.09	63	+ 3.25	63	— 0.39	63	— 2.14	62	+ 4.03	62	+ 1.61	63	— 5.16	63	+10.40
	Total	Number of Bank-Years	182	....	182	....	182	....	182	....	177	....	177	....	182	....	182	....
		Dependent Variable: Av.	...	— 2.58	...	+ 1.10	...	— 3.84	...	— 5.06	...	+ 7.60	...	+ 7.15	...	— 3.13	...	+ 5.66
		Independent Variable: Av.	...	—30.60	...	—30.60	...	—30.60	...	—30.60	...	—30.93	...	—30.93	...	—30.60	...	—30.60

* Under 1,500 and 1,500 to 2,500.

TABLE 199

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) of 2,500 to 15,000 for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	107	....	107	....	107	....	107	....	99	....	99	....	107	....	107	....
		Independent Variable: Av.	...	+31.64	...	+31.64	...	+31.64	...	+31.64	...	+31.56	...	+31.56	...	+31.64	...	+31.64
		Dependent Variable: Av.	...	+ 5.65	...	— 1.92	...	+11.26	...	+14.44	...	—14.80	...	—13.99	...	+ 4.63	...	— 8.18
	40.00 and over	+50.00	45	— 1.00	45	— 4.56	45	+21.11	45	+27.00	42	—31.19	42	—30.48	45	+ 9.00	45	—13.22
	20.00–40.00	+30.00	22	+ 6.82	22	+ 4.55	22	+ 5.00	22	+ 1.82	20	+ 1.00	20	± 0.00	22	+ 3.64	22	— 3.64
	Under 20.00	+10.00	40	+12.50	40	— 2.50	40	+ 3.62	40	+ 7.25	37	— 4.73	37	— 2.84	40	+ 0.25	40	— 5.00
Below the Average	Under 20.00	—10.00	39	+ 2.18	39	+ 3.21	39	— 5.77	39	—10.13	39	+14.74	39	+11.67	39	— 1.92	39	— 0.13
	20.00–40.00	—30.00	27	— 4.26	27	+ 2.04	27	—14.63	27	—17.96	27	+20.19	27	+20.93	27	— 2.04	27	+ 6.48
	40.00 and over	—50.00	56	— 7.50	56	+ 0.18	56	—13.75	56	—14.11	56	+12.32	56	+15.18	56	— 5.54	56	+10.71
	Total	Number of Bank-Years	122	....	122	....	122	....	122	....	122	....	122	....	122	....	122	....
		Dependent Variable: Av.	...	— 3.69	...	+ 1.56	...	—11.39	...	—15.33	...	+14.84	...	+15.33	...	— 3.61	...	+ 6.31
		Independent Variable: Av.	...	—32.87	...	—32.87	...	—32.87	...	—32.87	...	—32.87	...	—32.87	...	—32.87	...	—32.87

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* 2,500–5,000 and 5,000–15,000.

TABLE 200

Correlation of Percentage Differences of Various Ratios for California Member Banks Located in Cities with Population (1920) of 15,000 and Over for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective City-Size Groups)*

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Distance from Averages			Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
Position	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	100	....	100	....	100	....	100	....	98	....	98	....	100	....	100	....
		Independent Variable: Av.	...	+27.50	...	+27.50	...	+27.50	...	+27.50	...	+27.24	...	+27.24	...	+27.50	...	+27.50
		Dependent Variable: Av.	...	+ 1.80	...	— 0.20	...	+ 6.90	...	+ 8.30	...	— 8.77	...	— 9.29	...	+ 2.70	...	— 4.40
	40.00 and over	+50.00	35	+ 4.71	35	+ 2.43	35	+12.43	35	+11.29	34	—11.18	34	—14.70	35	+11.86	35	+ 1.86
	20.00–40.00	+30.00	22	— 0.46	22	— 4.09	22	+14.54	22	+20.00	21	—23.09	21	—20.24	22	— 2.27	22	—11.81
	Under 20.00	+10.00	43	+ 0.57	43	— 0.35	43	— 1.51	43	— 0.12	43	+ 0.12	43	+ 0.35	43	— 2.21	43	— 5.70
Below the Average	Under 20.00	—10.00	49	+ 2.75	49	— 0.51	49	— 6.84	49	— 6.63	48	+ 7.50	48	+ 7.71	49	— 3.98	49	— 2.96
	20.00–40.00	—30.00	30	— 1.67	30	+ 2.00	30	—11.67	30	—12.33	30	+13.67	30	+12.33	30	— 0.33	30	+ 8.67
	40.00 and over	—50.00	31	— 4.03	31	+ 0.81	31	— 7.58	31	— 7.58	31	+ 6.93	31	+ 6.61	31	— 5.32	31	+10.16
	Total	Number of Bank-Years	110	....	110	....	110	....	110	....	109	....	109	....	110	....	110	....
		Dependent Variable: Av.	...	— 0.36	...	+ 0.55	...	— 8.36	...	— 8.45	...	+ 9.04	...	+ 8.67	...	— 3.36	...	+ 3.91
		Independent Variable: Av.	...	—26.82	...	—26.82	...	—26.82	...	—26.82	...	—27.02	...	—27.02	...	—26.82	...	—26.82

* 15,000–50,000
50,000–100,000
100,000 and over.

TABLE 201

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets under $1,000,000 for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Yearly Averages of This Volume Group)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	219	....	219	....	219	....	219	....	205	....	205	....	219	....	219	....
		Independent Variable: Av.	...	+32.99	...	+32.99	...	+32.99	...	+32.99	...	+32.56	...	+32.56	...	+32.99	...	+32.99
		Dependent Variable: Av.	...	+ 4.63	...	— 1.35	...	+ 6.23	...	+ 9.79	...	—12.51	...	—12.12	...	+ 5.82	...	— 7.01
	40.00 and over	+50.00	91	+ 2.80	91	— 3.24	91	+ 9.39	91	+14.78	83	—19.82	83	—20.06	91	+ 8.41	91	—13.13
	20.00–40.00	+30.00	59	+10.25	59	+ 0.08	59	+ 7.88	59	+10.08	55	—10.27	55	—11.00	59	+ 4.15	59	— 4.66
	Under 20.00	+10.00	69	+ 2.25	69	— 0.07	69	+ 0.65	69	+ 2.97	67	— 5.30	67	— 3.21	69	+ 3.84	69	— 0.94
Below the Average	Under 20.00	—10.00	60	— 1.83	60	— 0.50	60	—10.33	60	— 9.67	57	+14.47	57	+15.88	60	— 1.50	60	— 0.83
	20.00–40.00	—30.00	74	— 3.38	74	+ 1.62	74	— 5.94	74	— 8.38	74	+12.16	74	+ 9.86	74	— 1.89	74	+ 5.27
	40.00 and over	—50.00	108	— 4.07	108	+ 2.69	108	— 6.85	108	— 9.17	107	+10.61	107	+ 8.83	108	— 3.61	108	+10.28
	Total	Number of Bank-Years	242	....	242	....	242	....	242	....	238	....	238	....	242	....	242	....
		Dependent Variable: Av.	...	— 3.31	...	+ 1.57	...	— 7.44	...	— 9.05	...	+12.02	...	+10.84	...	— 2.56	...	+ 5.99
		Independent Variable: Av.	...	—34.30	...	—34.30	...	—34.30	...	—34.30	...	—34.54	...	—34.54	...	—34.30	...	—34.30

TABLE 202

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets of $1,000,000 to $3,000,000 for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	82	....	82	....	82	....	82	....	81	....	81	....	82	....	82	....
		Independent Variable: Av.	...	+25.73	...	+25.73	...	+25.73	...	+25.73	...	+25.86	...	+25.86	...	+25.73	...	+25.73
		Dependent Variable: Av.	...	+ 0.37	...	− 2.80	...	+ 5.49	...	+ 6.10	...	− 7.72	...	− 6.60	...	+ 3.78	...	− 7.07
	40.00 and over	+50.00	21	− 2.14	21	− 6.43	21	+ 8.33	21	+13.57	21	−17.38	21	−15.00	21	+12.62	21	−14.05
	20.00–40.00	+30.00	21	+ 1.19	21	+ 1.67	21	+11.66	21	+ 7.86	21	−10.71	21	− 9.29	21	+ 4.05	21	− 4.52
	Under 20.00	+10.00	40	+ 1.25	40	− 3.25	40	+ 0.75	40	+ 1.25	39	− 0.90	39	− 0.64	40	− 1.00	40	− 4.75
Below the Average	Under 20.00	−10.00	49	− 0.31	49	+ 1.12	49	− 2.75	49	− 3.78	48	+ 8.75	48	+ 7.71	49	− 2.14	49	+ 1.12
	20.00–40.00	−30.00	33	+ 1.36	33	+ 2.27	33	− 3.79	33	− 7.42	33	+ 9.24	33	+ 8.94	33	− 0.76	33	+ 9.55
	40.00 and over	−50.00	19	+ 1.32	19	+ 5.00	19	− 2.89	19	− 7.10	19	+10.79	19	+ 8.68	19	− 6.06	19	+12.89
	Total	Number of Bank-Years	101	....	101	....	101	....	101	....	100	....	100	....	101	....	101	....
		Dependent Variable: Av.	...	+ 0.55	...	+ 2.23	...	− 3.12	...	− 5.59	...	+ 9.30	...	+ 8.30	...	− 2.43	...	+ 6.09
		Independent Variable: Av.	...	−24.01	...	−24.01	...	−24.01	...	−24.01	...	−24.10	...	−24.10	...	−24.01	...	−24.01

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* $1,000,000–$2,000,000
$2,000,000–$3,000,000

TABLE 203

Correlation of Percentage Differences of Various Ratios for California Member Banks Having Average Earning Assets of $3,000,000 and Over for 1925, 1926, and 1927, Combined, with Ratios of Net Earnings to Earning Assets

(Percentage Differences from the Respective Yearly Averages of the Respective Volume Groups)*

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			Dependent Variables—Net Percentage Differences in Ratios as Specified															
Position	Distance from Averages		Loans and Discounts to Earning Assets		Total Deposits to Earning Assets		Demand Deposits to Earning Assets		Demand Deposits to Total Deposits		Time Deposits to Earning Assets		Time Deposits to Total Deposits		Gross Earnings to Earning Assets		Total Expense to Earning Assets	
	Percentage Groups	Average %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %	No.	Av. %
Above the Average	Total	Number of Bank-Years	66	....	66	....	66	....	66	....	64	....	64	....	66	....	66	....
		Independent Variable: Av.	...	+28.33	...	+28.33	...	+28.33	...	+28.33	...	+28.59	...	+28.59	...	+28.33	...	+28.33
		Dependent Variable: Av.	...	+ 0.76	...	+ 0.45	...	+11.97	...	+10.76	...	—10.31	...	—10.63	...	+ 5.76	...	— 2.57
	40.00 and over	+50.00	18	— 2.22	18	+ 4.44	18	+21.67	18	+15.00	18	—13.33	18	—15.00	18	+21.67	18	+ 5.55
	20.00–40.00	+30.00	23	+ 2.39	23	— 3.70	23	+ 8.04	23	+11.52	22	—12.27	22	—11.36	23	— 0.22	23	— 8.04
	Under 20.00	+10.00	25	+ 1.40	25	+ 1.40	25	+ 8.60	25	+ 7.00	24	— 6.25	24	— 6.67	25	— 0.20	25	— 3.40
Below the Average	Under 20.00	—10.00	31	+ 2.74	31	— 2.10	31	— 4.03	31	— 3.06	31	+ 2.42	31	+ 1.13	31	— 3.71	31	— 3.06
	20.00–40.00	—30.00	19	+ 3.95	19	+ 2.63	19	—16.05	19	—15.53	19	+11.84	19	+13.95	19	— 3.95	19	+ 4.47
	40.00 and over	—50.00	23	— 6.74	23	+ 0.65	23	—15.00	23	—13.70	23	+12.39	23	+15.43	23	— 6.74	23	+10.22
	Total	Number of Bank-Years	73	....	73	....	73	....	73	....	73	....	73	....	73	....	73	....
		Dependent Variable: Av.	...	+ 0.07	...	— 0.62	...	—10.62	...	— 9.66	...	+ 8.01	...	+ 8.97	...	— 4.73	...	+ 3.08
		Independent Variable: Av.	...	—27.74	...	—27.74	...	—27.74	...	—27.74	...	—27.74	...	—27.74	...	—27.74	...	—27.74

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* $3,000,000–$4,000,000
$4,000,000–$5,000,000
$5,000,000 and over

TABLE 204

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR ALL MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES, 1925, 1926, AND 1927, COMBINED

(Percentage Differences from the Respective Yearly Averages)

Independent Variable—Percentage Differences in Ratios: Gross Earnings to Earning Assets			California			Washington			Oregon			Idaho, Utah, Nevada, Arizona		
			Dependent Variables—Ratios:											
Position	Distance from Averages: Percentage Groups	Distance from Averages: Average Percentage	Number	Net Earnings to Earning Assets Average %	Total Expense to Earning Assets Average %	Number	Net Earnings to Earning Assets Average %	Total Expense to Earning Assets Average %	Number	Net Earnings to Earning Assets Average %	Total Expense to Earning Assets Average %	Number	Net Earnings to Earning Assets Average %	Total Expense to Earning Assets Average %
Above the Average	Total	Number of Bank-Years	351	....	....	206	....	....	173	....	....	184	....	....
		Independent Variable: Av.	...	+13.06	+13.06	...	+12.28	+12.28	...	+11.24	+11.24	...	+14.84	+14.84
		Dependent Variable: Av.	...	+ 8.02	+11.12	...	+12.91	+ 9.03	...	+12.80	+ 7.95	...	+16.41	+12.01
	50.00 and over	+55.00	5	+25.00	+53.00	6	+ 2.83	+45.00	...	....	....	6	+48.33	+55.00
	40.00–50.00	+45.00	7	+17.86	+30.71	3	— 5.00	+55.00	3	+51.67	+35.00	3	+41.67	+45.00
	30.00–40.00	+35.00	14	+10.70	+34.28	5	+43.00	+27.00	7	+29.29	+33.57	14	+27.14	+31.43
	20.00–30.00	+25.00	45	+18.55	+22.11	16	+ 6.88	+27.50	14	+ 7.14	+28.57	29	+15.00	+23.97
	10.00–20.00	+15.00	98	+16.43	+11.43	61	+17.79	+11.23	47	+14.36	+12.02	39	+19.10	+12.18
	Under 10.00	+ 5.00	187	— 0.17	+ 5.33	115	+ 9.52	+ 1.43	102	+10.59	+ 0.69	93	+11.24	+ 1.45
Below the Average	Under 10.00	— 5.00	248	— 2.94	— 5.81	158	— 7.53	— 4.56	138	— 7.90	— 3.77	109	— 8.58	— 4.08
	10.00–20.00	—15.00	148	—16.76	—13.11	65	— 2.05	—11.00	55	—22.82	—10.04	71	—21.34	—12.61
	20.00–30.00	—25.00	32	—33.12	—20.00	17	—25.00	—21.47	12	—32.50	—20.83	40	—29.00	—23.00
	30.00–40.00	—35.00	4	—35.00	—35.00	1	—55.00	—15.00	2	—20.00	—35.00	7	—40.71	—29.29
	40.00–50.00	—45.00	...	....	....	4	—47.50	—40.00	...	....	....	...	....	....
	50.00 and over	—55.00	...	....	....	1	—55.00	—55.00	...	....	....	...	....	....
	Total	Number of Bank-Years	432	....	....	246	....	....	207	....	....	227	....	....
		Dependent Variable: Av.	...	—10.21	— 9.63	...	—13.21	— 8.25	...	—13.41	— 6.88	...	—17.16	—10.86
		Independent Variable: Av.	...	—10.18	—10.18	...	—10.00	—10.00	...	— 9.11	— 9.11	...	—12.58	—12.58

TABLE 205

CORRELATION OF PERCENTAGE DIFFERENCES OF BANK RATIOS FOR ALL MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, BY STATES, 1925, 1926, AND 1927, COMBINED

(Percentage Differences from the Respective Yearly Averages)

Independent Variable—Percentage Differences in Ratios: Total Expense to Earning Assets			California			Washington			Oregon			Idaho, Utah, Nevada, Arizona		
			Dependent Variables—Ratios:											
Position	Distance from Averages: Percentage Groups	Distance from Averages: Average Percentage	Number	Gross Earnings to Earning Assets Average %	Net Earnings to Earning Assets Average %	Number	Gross Earnings to Earning Assets Average %	Net Earnings to Earning Assets Average %	Number	Gross Earnings to Earning Assets Average %	Net Earnings to Earning Assets Average %	Number	Gross Earnings to Earning Assets Average %	Net Earnings to Earning Assets Average %
Above the Average	Total	Number of Bank-Years	368	....	....	202	....	....	181	....	....	180	....	....
		Independent Variable: Av.	...	+15.38	+15.38	...	+14.11	+14.11	...	+14.34	+14.34	...	+16.06	+16.06
		Dependent Variable: Av.	...	+ 8.15	—14.43	...	+ 8.32	— 9.80	...	+ 7.10	—11.63	...	+11.61	— 3.78
	50.00 and over	+55.00	14	+40.71	—27.14	9	+45.00	— 6.11	3	+28.33	—41.67	8	+50.00	+30.00
	40.00–50.00	+45.00	9	+32.77	—10.55	5	+21.00	—47.00	4	+35.00	+10.00	11	+32.27	— 6.82
	30.00–40.00	+35.00	21	+18.33	—31.19	14	+19.29	—19.29	7	+25.00	— 5.00	16	+25.63	— 6.25
	20.00–30.00	+25.00	52	+13.85	—20.77	16	+20.00	+ 3.13	25	+14.60	—14.60	18	+16.67	— 6.11
	10.00–20.00	+15.00	109	+ 7.20	—15.83	45	+ 7.22	—16.11	57	+ 7.46	—15.18	34	+10.00	— 6.18
	Under 10.00	+ 5.00	163	+ 1.50	— 8.44	113	+ 2.26	— 6.59	85	+ 1.12	— 8.88	93	+ 3.06	— 4.57
Below the Average	Under 10.00	— 5.00	186	— 2.53	+ 1.34	137	— 3.18	+ 0.91	97	— 5.10	— 6.44	94	— 3.62	— 2.69
	10.00–20.00	—15.00	126	— 8.49	+ 7.06	71	— 6.69	+ 9.37	65	— 5.62	+19.77	88	— 9.20	+ 3.98
	20.00–30.00	—25.00	73	—11.71	+21.30	25	—12.60	+17.80	25	— 9.80	+21.00	33	—20.76	—10.45
	30.00–40.00	—35.00	23	—13.70	+32.39	13	—18.08	+18.08	8	— 8.75	+25.00	16	—23.75	+ 3.13
	40.00–50.00	—45.00	6	—15.00	+36.67	3	—31.67	— 8.33	4	—12.50	+40.00	...	....	....
	50.00 and over	—55.00	1	—15.00	+55.00	1	—55.00	—55.00	...	....	....	...	....	....
	Total	Number of Bank-Years	415	....	....	250	....	....	199	....	....	231	....	....
		Dependent Variable: Av.	...	— 6.78	+ 8.95	...	— 6.44	+ 5.56	...	— 6.16	+ 7.76	...	— 9.59	— 0.84
		Independent Variable: Av.	...	—13.92	—13.92	...	—12.08	—12.08	...	—12.79	—12.79	...	—13.74	—13.74

TABLE 206

Correlation of Percentage Differences of Bank Ratios for All Member Banks in the Twelfth Federal Reserve District, by States, 1925, 1926, and 1927, Combined

(Percentage Differences from the Respective Yearly Averages)

Independent Variable—Percentage Differences in Ratios: Net Earnings to Earning Assets			California			Washington			Oregon			Idaho, Utah, Nevada, Arizona		
			Dependent Variables—Ratios:											
	Distance from Averages		Number	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Number	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Number	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Number	Gross Earnings to Earning Assets	Total Expense to Earning Assets
Position	Percentage Groups	Average Percentage		Average %	Average %		Average %	Average %		Average %	Average %		Average %	Average %
Above the Average	Total	Number of Bank-Years	370	....	....	217	....	....	177	....	....	191	....	....
		Independent Variable: Av.	...	+30.57	+30.57	...	+26.84	+26.84	...	+28.62	+28.62	...	+29.61	+29.61
		Dependent Variable: Av.	...	+ 4.59	— 6.05	...	+ 6.01	— 3.57	...	+ 5.56	— 4.38	...	+ 7.25	— 1.34
	50.00 and over	+55.00	106	+11.32	—10.38	38	+14.21	— 7.89	33	+11.06	—14.70	42	+20.24	+ 2.86
	40.00–50.00	+45.00	30	+ 5.67	— 7.00	19	+ 7.63	— 5.53	22	+ 9.09	— 3.18	23	+ 9.78	— 1.96
	30.00–40.00	+35.00	36	+ 3.61	— 7.22	31	+ 6.61	— 4.68	23	+ 1.52	—11.09	27	+10.93	+ 3.89
	20.00–30.00	+25.00	60	+ 2.67	— 4.50	35	+ 4.14	— 4.43	31	+ 5.97	+ 0.81	23	+ 6.30	— 0.65
	10.00–20.00	+15.00	68	± 0.00	— 4.41	45	+ 3.89	— 0.56	34	+ 3.82	— 0.29	41	— 0.12	— 5.73
	Under 10.00	+ 5.00	70	+ 0.57	— 1.43	49	+ 1.94	— 0.92	34	+ 2.06	+ 0.59	35	— 3.57	— 5.29
Below the Average	Under 10.00	— 5.00	73	— 3.77	— 2.81	41	— 2.81	— 2.56	39	— 3.21	— 2.95	35	— 0.43	+ 1.57
	10.00–20.00	—15.00	70	— 2.57	+ 0.57	52	— 3.85	— 0.39	46	— 4.78	— 2.17	41	— 3.54	— 1.59
	20.00–30.00	—25.00	63	— 4.84	+ 0.71	40	— 7.50	— 1.00	32	— 1.56	+ 7.50	37	— 8.51	— 2.84
	30.00–40.00	—35.00	47	— 0.11	+10.11	44	— 2.73	+ 8.41	25	— 4.60	+ 6.20	37	— 8.24	— 0.68
	40.00–50.00	—45.00	53	— 1.23	+ 9.72	30	— 7.00	+ 5.67	29	— 5.69	+ 6.38	33	— 7.73	+ 3.79
	50.00 and over	—55.00	107	— 6.40	+11.73	28	—10.36	+ 8.21	32	— 7.81	+11.25	37	—12.84	+ 0.41
	Total	Number of Bank-Years	413	....	....	235	....	....	203	....	....	220	....	....
		Dependent Variable: Av.	...	— 3.67	+ 5.15	...	— 5.26	+ 2.57	...	— 4.56	+ 3.57	...	— 6.86	± 0.00
		Independent Variable: Av.	...	—31.24	—31.24	...	—27.30	—27.30	..	—27.71	—27.71	...	—29.68	—29.68

TABLE 207

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in the Twelfth Federal Reserve District, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average							Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over			
Above the Average	50.00 and over	14	1	..	2	..	..	..	..	..	..	..	..	17	+55.00	+50.88
	40.00–50.00	6	5	1	1	1	1	..	1	..	..	..	..	16	+45.00	+38.75
	30.00–40.00	7	6	10	8	7	..	1	1	..	..	..	..	40	+35.00	+32.25
	20.00–30.00	7	15	20	19	20	14	7	1	1	..	..	..	104	+25.00	+24.33
	10.00–20.00	..	2	21	44	65	64	40	6	2	1	..	..	245	+15.00	+11.61
	Under 10.00	..	..	6	32	93	169	119	57	10	6	..	..	492	+ 5.00	+ 2.72
Below the Average	Under 10.00	..	..	..	5	53	177	219	139	42	11	7	..	653	— 5.00	— 4.79
	10.00–20.00	..	..	..	..	6	29	115	113	59	15	1	1	339	—15.00	—12.20
	20.00–30.00	..	..	..	..	..	..	13	31	36	20	1	..	101	—25.00	—21.53
	30.00–40.00	..	..	..	..	..	..	..	1	6	5	2	..	14	—35.00	—30.71
	40.00–50.00	..	..	..	..	..	..	..	..	..	2	2	..	4	—45.00	—40.00
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	1	1	—55.00	—55.00
Total	No. of Bank-Years	34	29	58	111	245	454	514	350	156	60	13	2	2026 2026		
	Average Percentage Differences: Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Average Percentage Differences: Ratios: Gross Earnings to Earning Assets (Net)	+42.94	+30.86	+21.38	+15.36	+ 7.65	+ 1.94	— 3.39	— 7.77	—13.46	—16.67	—18.08	—35.00			

TABLE 208

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in the Twelfth Federal Reserve District, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average						No. of Bank-Years	Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over		Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	9	..	3	1	1	1	..	1	..	..	1	..	17	+55.00	+34.41
Above	40.00–50.00	7	2	1	1	..	1	..	1	..	1	1	1	16	+45.00	+24.38
the	30.00–40.00	14	4	2	6	4	..	3	2	..	1	2	2	40	+35.00	+23.75
Aver-	20.00–30.00	29	10	8	9	5	9	2	7	3	6	9	7	104	+25.00	+14.23
age	10.00–20.00	61	18	23	17	35	19	13	19	10	12	11	7	245	+15.00	+16.80
	Under 10.00	58	33	32	56	51	64	50	39	30	33	18	28	492	+ 5.00	+ 6.48
	Under 10.00	34	23	40	46	62	62	79	74	73	53	43	64	653	— 5.00	— 6.04
Below	10.00–20.00	7	4	8	12	26	26	30	47	44	36	41	58	339	—15.00	—19.42
the	20.00–30.00	..	..	..	1	4	6	10	17	10	8	16	29	101	—25.00	—30.05
Aver-	30.00–40.00	..	..	..	..	..	..	1	2	2	2	2	5	14	—35.00	—37.14
age	40.00–50.00	..	..	..	..	..	..	..	..	..	1	1	2	4	—45.00	—47.50
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	1	1	—55.00	—55.00
Total	No. of Bank-Years	219	94	117	149	188	188	188	209	172	153	145	204	2026 / 2026		
verage Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: ross Earn-ings to Earning Assets (Net)	+18.49	+ 7.87	+ 5.68	+ 4.26	+ 1.60	+ 0.43	— 2.82	— 3.56	— 5.64	— 3.56	— 4.79	— 8.33			

TABLE 209

CORRELATION OF PERCENTAGE DIFFERENCES OF RATIOS IN PAIRED SERIES—TOTAL EXPENSE TO EARNING ASSETS AND NET EARNINGS TO EARNING ASSETS FOR ALL MEMBER BANKS IN THE TWELFTH FEDERAL RESERVE DISTRICT, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	6	..	4	1	1	2	1	3	..	2	5	9	34	+55.00	— 9.41
Above	40.00–50.00	3	2	..	3	1	..	3	1	1	5	7	3	29	+45.00	—12.59
the	30.00–40.00	1	1	2	4	5	6	1	8	4	7	8	11	58	+35.00	—18.28
Aver-	20.00–30.00	8	5	3	8	3	8	8	13	13	12	7	23	111	+25.00	—13.56
age	10.00–20.00	14	9	9	7	30	17	16	19	20	31	24	49	245	+15.00	—14.39
	Under 10.00	29	16	22	33	34	45	51	48	49	44	36	47	454	+ 5.00	— 7.27
Below	Under 10.00	57	17	21	41	49	58	58	58	52	28	38	37	514	— 5.00	— 0.97
the	10.00–20.00	41	30	37	33	41	32	34	34	21	18	12	17	350	—15.00	+ 9.11
Aver-	20.00–30.00	28	13	16	15	17	16	8	20	8	4	7	4	156	—25.00	+13.97
age	30.00–40.00	23	1	3	4	6	4	7	4	4	1	..	3	60	—35.00	+20.50
	40.00–50.00	8	..	..	..	1	..	1	1	..	1	1	..	13	—45.00	+27.31
	50.00 and over	1	..	..	..	..	..	..	..	..	..	..	1	2	—55.00	± 0.00
Total	No. of Bank-Years	219	94	117	149	188	188	188	209	172	153	145	204	2026 2026		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	—8.06	—4.57	—4.74	—2.79	—3.03	—1.65	—1.97	—0.69	+0.81	+6.37	+6.86	+9.12			

TABLE 210

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in Oregon, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*		Ratios: Total Expense to Earning Assets *(Percentage Differences)*											Total		
		Number of Bank-Years												Average Percentage Differences	
		Above the Average						Below the Average							
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
Above the Average	40.00–50.00	..	1	1	1	..	..	..	..	..	..	..	3	+45.00	+35.00
	30.00–40.00	1	2	1	1	2	..	..	..	..	..	..	7	+35.00	+33.57
	20.00–30.00	2	1	2	4	5	..	..	..	..	..	..	14	+25.00	+28.57
	10.00–20.00	..	..	3	11	16	9	5	1	1	1	..	47	+15.00	+12.02
	Under 10.00	..	..	..	6	17	37	20	15	5	2	..	102	+ 5.00	+ 0.69
Below the Average	Under 10.00	..	..	..	2	16	36	44	30	6	1	3	138	— 5.00	— 3.77
	10.00–20.00	..	..	..	..	1	3	25	17	8	1	..	55	—15.00	—10.64
	20.00–30.00	..	..	..	..	..	..	3	2	4	3	..	12	—25.00	—20.83
	30.00–40.00	..	..	..	..	..	..	..	..	1	..	1	2	—35.00	—35.00
Total	No. of Bank-Years	3	4	7	25	57	85	97	65	25	8	4	380 / 380		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+28.33	+35.00	+25.00	+14.60	+ 7.46	+ 1.12	— 5.10	— 5.62	— 9.80	— 8.75	—12.50			

TABLE 211

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Oregon, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	40.00–50.00	2	1	..	..	..	..	..	..	..	..	..	..	3	+45.00	+51.67
	30.00–40.00	2	1	..	2	1	..	..	1	..	..	..	..	7	+35.00	+29.29
	20.00–30.00	..	2	2	3	2	1	..	1	..	..	1	2	14	+25.00	+ 7.14
	10.00–20.00	10	4	3	2	6	8	3	3	3	3	1	1	47	+15.00	+14.36
	Under 10.00	15	8	4	14	12	11	9	8	11	6	4	..	102	+ 5.00	+10.59
Below the Average	Under 10.00	4	6	13	9	9	8	22	17	13	8	13	16	138	— 5.00	— 7.90
	10.00–20.00	..	..	1	1	4	6	3	12	4	6	9	9	55	—15.00	—22.82
	20.00–30.00	..	..	..	..	..	..	1	4	1	1	1	4	12	—25.00	—32.50
	30.00–40.00	..	..	..	..	..	..	1	..	..	1	..	..	2	—35.00	—20.00
Total	No. of Bank-Years	33	22	23	31	34	34	39	46	32	25	29	32	380 380		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+11.06	+ 9.09	+ 1.52	+ 5.97	+ 3.82	+ 2.06	— 3.21	— 4.78	— 1.56	— 4.60	— 5.69	— 7.81			

TABLE 212

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Oregon, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	..	..	..	..	..	..	..	1	..	..	..	2	3	+55.00	—41.67
Above	40.00–50.00	..	1	..	1	1	..	..	..	..	..	1	..	4	+45.00	+10.00
the	30.00–40.00	1	..	..	1	1	..	..	1	1	1	..	1	7	+35.00	— 5.00
Aver-	20.00–30.00	1	1	..	2	1	3	1	3	3	5	3	2	25	+25.00	—14.60
age	10.00–20.00	2	2	3	2	6	6	4	2	8	3	6	13	57	+15.00	—15.18
	Under 10.00	2	4	2	8	6	9	10	10	13	7	9	5	85	+ 5.00	— 8.88
	Under 10.00	5	3	2	9	10	7	17	15	6	6	9	8	97	— 5.00	— 6.44
Below	10.00–20.00	9	10	10	7	5	7	4	10	..	2	..	1	65	—15.00	+19.77
the	20.00–30.00	6	1	6	1	3	2	1	2	1	1	1	..	25	—25.00	+21.00
Aver-	30.00–40.00	4	..	..	..	1	..	1	2	..	..	..	..	8	—35.00	+25.00
age	40.00–50.00	3	..	..	..	..	..	1	..	..	..	..	..	4	—45.00	+40.00
Total	No. of Bank-Years	33	22	23	31	34	34	39	46	32	25	29	32	380 / 380		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	—14.70	— 3.18	—11.09	+ 0.81	— 0.29	+ 0.59	— 2.95	— 2.17	+ 7.50	+ 6.20	+ 6.38	+11.25			

TABLE 213

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in Washington, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*) Number of Bank-Years												Total		
		Above the Average						Below the Average							Average Percentage Differences	
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	4	..	..	2	..	..	..	..	..	..	..	..	6	+55.00	+45.00
Above	40.00–50.00	3	..	..	..	..	..	..	..	..	..	..	..	3	+45.00	+55.00
the	30.00–40.00	..	..	2	2	1	..	..	..	..	..	..	..	5	+35.00	+27.00
Aver-	20.00–30.00	2	3	4	2	1	2	1	1	..	..	..	..	16	+25.00	+27.50
age	10.00–20.00	..	2	6	5	13	25	9	1	..	..	..	..	61	+15.00	+11.23
	Under 10.00	..	..	2	4	23	31	38	13	2	2	..	..	115	+ 5.00	+ 1.43
	Under 10.00	..	..	..	1	6	50	58	32	8	2	1	..	158	— 5.00	— 4.56
Below	10.00–20.00	..	..	..	..	1	5	28	19	9	3	..	..	65	—15.00	—11.00
the	20.00–30.00	..	..	..	..	..	..	3	4	6	4	..	..	17	—25.00	—21.47
Aver-	30.00–40.00	..	..	..	..	..	..	..	1	..	..	..	..	1	—35.00	—15.00
age	40.00–50.00	..	..	..	..	..	..	..	..	..	2	2	..	4	—45.00	—40.00
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	1	1	—55.00	—55.00
Total	No. of Bank-Years	9	5	14	16	45	113	137	71	25	13	3	1	452 452		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+45.00	+21.00	+19.29	+20.00	+ 7.22	+ 2.26	— 3.18	— 6.69	—12.60	—18.08	—31.67	—55.00			

TABLE 214

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Washington, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years												No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average							Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over			
	50.00 and over	3	..	..	..	1	1	..	1	..	..	..	..	6	+55.00	+ 2.83
Above	40.00–50.00	..	..	1	..	..	..	..	1	..	1	..	..	3	+45.00	— 5.00
the	30.00–40.00	2	1	1	1	..	..	..	..	..	..	..	..	5	+35.00	+43.00
Aver-	20.00–30.00	4	1	..	1	2	3	..	..	..	1	3	1	16	+25.00	+ 6.88
age	10.00–20.00	10	6	8	9	10	5	2	3	..	3	2	3	61	+15.00	+17.79
	Under 10.00	15	6	13	11	12	17	10	8	6	11	4	2	115	+ 5.00	+ 9.52
	Under 10.00	4	4	6	10	16	17	25	24	19	17	6	10	158	— 5.00	— 7.53
Below	10.00–20.00	..	1	2	2	4	4	3	11	14	9	9	6	65	—15.00	— 2.05
the	20.00–30.00	..	..	..	1	..	2	1	4	1	1	5	2	17	—25.00	—25.00
Aver-	30.00–40.00	..	..	..	..	..	..	..	..	..	..	..	1	1	—35.00	—55.00
age	40.00–50.00	..	..	..	..	..	..	..	..	..	1	1	2	4	—45.00	—47.50
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	1	1	—55.00	—55.00
Total	No. of Bank-Years	38	19	31	35	45	49	41	52	40	44	30	28	452 / 452		
verage Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: oss Earn-ings to Earning Assets (Net)	+14.21	+ 7.63	+ 6.61	+ 4.14	+ 3.89	+ 1.94	— 2.81	— 3.85	— 7.50	— 2.73	— 7.00	—10.36			

TABLE 215

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Washington, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	1	..	1	..	1	1	..	2	..	1	1	1	9	+55.00	— 6.11
Above	40.00–50.00	..	..	..	..	..	..	..	..	..	1	2	2	5	+45.00	—47.00
the	30.00–40.00	..	..	1	1	1	3	..	..	..	3	2	3	14	+35.00	—19.29
Aver-	20.00–30.00	3	1	..	1	1	3	..	2	2	1	1	1	16	+25.00	+ 3.13
age	10.00–20.00	1	1	..	3	5	3	5	4	3	12	3	5	45	+15.00	—16.11
	Under 10.00	3	6	9	6	12	9	11	16	10	15	8	8	113	+ 5.00	— 6.59
Below	Under 10.00	13	4	8	12	15	15	16	14	20	8	8	4	137	— 5.00	+ 0.91
the	10.00–20.00	9	3	7	8	6	10	8	10	4	2	3	1	71	—15.00	+ 9.37
Aver-	20.00–30.00	3	3	4	3	3	3	..	4	1	..	1	..	25	—25.00	+17.80
age	30.00–40.00	4	1	1	1	1	2	1	..	..	..	..	2	13	—35.00	+18.08
	40.00–50.00	1	..	..	..	..	..	..	..	..	1	1	..	3	—45.00	— 8.33
	50.00 and over	..	..	..	..	..	..	..	..	..	..	..	1	1	—55.00	—55.00
Total	No. of Bank-Years	38	19	31	35	45	49	41	52	40	44	30	28	452 / 452		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	—7.89	—5.53	—4.68	—4.43	—0.56	—0.92	—2.56	—0.39	—1.00	+8.41	+5.67	+8.21			

TABLE 216

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Total Expense to Earning Assets for All Member Banks in Arizona, Nevada, Utah, and Idaho, Combined, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets (*Percentage Differences*)		Ratios: Total Expense to Earning Assets (*Percentage Differences*)										Total		
		Number of Bank-Years										No. of Bank-Years	Average Percentage Differences	
		Above the Average						Below the Average						
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 29.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00		Ratios: Gross Earnings to Earning Assets	Ratios: Total Expense to Earning Assets (Net)
	50.00 and over	6	..	..	..	..	..	..	..	..	..	6	+55.00	+55.00
Above	40.00–50.00	..	3	..	..	..	..	..	..	..	..	3	+45.00	+45.00
the	30.00–40.00	2	2	5	2	2	..	..	1	..	..	14	+35.00	+31.43
Aver-	20.00–30.00	..	6	7	4	4	6	2	..	..	..	29	+25.00	+23.97
age	10.00–20.00	..	..	4	7	10	11	6	1	..	..	39	+15.00	+12.18
	Under 10.00	..	..	..	5	11	38	24	15	..	..	93	+ 5.00	+ 1.45
Below the Average	Under 10.00	..	..	..	..	7	35	35	27	3	2	109	— 5.00	— 4.08
	10.00–20.00	..	..	..	..	..	3	25	30	12	1	71	—15.00	—12.61
	20.00–30.00	..	..	..	..	..	..	2	14	14	10	40	—25.00	—23.00
	30.00–40.00	..	..	..	..	..	..	..	..	4	3	7	—35.00	—29.29
Total	No. of Bank-Years	8	11	16	18	34	93	94	88	33	16	411 411		
Average Percentage Differences	Ratios: Total Expense to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00			
	Ratios: Gross-Earnings to Earning Assets (Net)	+50.00	+32.27	+25.63	+16.67	+10.00	+ 3.06	— 3.62	— 9.20	—20.76	—23.75			

TABLE 217

Correlation of Percentage Differences of Ratios in Paired Series—Gross Earnings to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Arizona, Nevada, Utah, and Idaho, Combined, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Gross Earnings to Earning Assets *(Percentage Differences)*		Ratios: Net Earnings to Earning Assets *(Percentage Differences)*												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Gross Earnings to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
	50.00 and over	4	..	2	..	..	..	..	..	..	..	..	..	6	+55.00	+48.33
Above	40.00–50.00	1	1	..	1	..	..	..	..	..	..	..	..	3	+45.00	+41.67
the	30.00–40.00	5	1	1	2	2	..	2	..	..	..	1	..	14	+35.00	+27.14
Aver-	20.00–30.00	10	2	2	1	1	2	1	3	1	2	4	..	29	+25.00	+15.00
age	10.00–20.00	8	6	7	..	4	1	3	5	2	1	1	1	39	+15.00	+19.10
	Under 10.00	11	9	7	11	13	10	11	7	3	5	1	5	93	+ 5.00	+11.24
Below the Aver- age	Under 10.00	3	2	8	7	12	12	10	11	15	11	8	10	109	— 5.00	— 8.58
	10.00–20.00	..	2	..	1	6	7	4	10	11	12	10	8	71	—15.00	—21.34
	20.00–30.00	..	..	..	..	3	3	4	5	3	5	6	11	40	—25.00	—29.00
	30.00–40.00	..	..	..	..	..	..	..	..	2	1	2	2	7	—35.00	—40.71
Total	No. of Bank-Years	42	23	27	23	41	35	35	41	37	37	33	37	411 411		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Gross Earnings to Earning Assets (Net)	+20.24	+ 9.78	+10.93	+ 6.30	— 0.12	— 3.57	— 0.43	— 3.54	— 8.51	— 8.24	— 7.73	—12.84			

TABLE 218

Correlation of Percentage Differences of Ratios in Paired Series—Total Expense to Earning Assets and Net Earnings to Earning Assets for All Member Banks in Arizona, Nevada, Utah, and Idaho, Combined, 1925–1927

(Percentage Differences from the Yearly Averages of All Banks)

Ratios: Total Expense to Earning Assets (*Percentage Differences*)		Ratios: Net Earnings to Earning Assets (*Percentage Differences*)												Total		
		Number of Bank-Years													Average Percentage Differences	
		Above the Average						Below the Average								
Position	Percentage Groups	50.00 and Over	40.00 – 50.00	30.00 – 40.00	20.00 – 30.00	10.00 – 20.00	Under 10.00	Under 10.00	10.00 – 20.00	20.00 – 30.00	30.00 – 40.00	40.00 – 50.00	50.00 and Over	No. of Bank-Years	Ratios: Total Expense to Earning Assets	Ratios: Net Earnings to Earning Assets (Net)
Above the Average	50.00 and over	4	..	2	..	..	..	1	..	..	..	1	..	8	+55.00	+30.00
	40.00–50.00	1	1	..	2	..	..	2	..	..	1	4	..	11	+45.00	— 6.82
	30.00–40.00	..	1	1	1	2	2	..	4	2	1	1	1	16	+35.00	— 6.25
	20.00–30.00	2	1	1	1	1	..	2	3	2	2	..	3	18	+25.00	— 6.11
	10.00–20.00	4	1	4	..	4	2	2	2	2	5	2	6	34	+15.00	— 6.18
	Under 10.00	8	5	5	5	7	8	12	9	10	8	7	9	93	+ 5.00	— 4.57
Below the Average	Under 10.00	10	4	6	6	7	11	8	8	9	8	10	7	94	— 5.00	— 2.69
	10.00–20.00	10	8	8	5	14	5	4	7	7	8	4	8	88	—15.00	+ 3.98
	20.00–30.00	1	2	..	2	3	5	1	7	2	3	4	3	33	—25.00	—10.45
	30.00–40.00	2	..	..	1	3	2	3	1	3	1	..	..	16	—35.00	+ 3.13
Total	No. of Bank-Years	42	23	27	23	41	35	35	41	37	37	33	37	411 / 411		
Average Percentage Differences	Ratios: Net Earnings to Earning Assets	+55.00	+45.00	+35.00	+25.00	+15.00	+ 5.00	— 5.00	—15.00	—25.00	—35.00	—45.00	—55.00			
	Ratios: Total Expense to Earning Assets (Net)	+2.86	—1.96	+3.89	—0.65	—5.73	—5.29	+1.57	—1.50	—2.84	—0.68	+3.79	+0.41			

TABLE 219

AVERAGE RATIOS FOR CALIFORNIA MEMBER BANKS, CLASSIFIED BY TYPE, SIZE OF CITY OF LOCATION, AND AVERAGE AMOUNT OF EARNING ASSETS, 1925–1927

Size of City, 1920 (in 000's)	Amount of Earning Assets Average 1922–1927 (in 000,000's)	Years	Ratios									
			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Demand Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets	Total Expense to Gross Earnings	Net Earnings to Gross Earnings
			Total (All Banks)									
All	All	Average	66.27	100.23	62.36	38.94	62.50	7.29	5.53	1.77	75.90	24.10
		1925	67.72	99.57	63.48	37.43	63.99	7.29	5.54	1.75	76.05	23.95
		1926	66.32	100.62	62.35	39.24	62.30	7.27	5.52	1.76	76.07	23.93
		1927	64.46	100.54	61.05	40.35	60.94	7.31	5.54	1.79	75.52	24.48
			National Unit Banks, by Size of City									
All	All	Average	64.84	100.24	65.07	36.37	65.10	7.28	5.50	1.79	75.54	24.46
		1925	66.39	99.42	66.42	34.48	67.00	7.27	5.49	1.78	75.60	24.40
		1926	64.76	100.73	65.22	36.58	65.00	7.24	5.48	1.78	75.78	24.22
		1927	63.12	100.62	63.31	38.27	63.02	7.33	5.53	1.82	75.18	24.82
Under 1.5	All	Average	65.00	102.98	66.98	38.53	65.10	7.61	5.91	1.72	77.70	22.30
		1925	66.39	100.69	67.69	33.64	67.41	7.55	5.88	1.68	78.00	22.00
		1926	65.65	104.81	68.16	38.09	65.15	7.61	5.87	1.75	77.27	22.73
		1927	62.73	103.43	64.86	38.57	62.48	7.68	5.98	1.72	77.86	22.14
1.5 to 2.5	All	Average	64.94	100.81	68.42	33.88	67.83	7.34	5.48	1.87	74.53	25.47
		1925	66.90	100.40	69.44	32.53	69.08	7.29	5.42	1.89	74.25	25.75
		1926	65.10	101.11	68.98	33.76	68.27	7.35	5.50	1.86	74.64	25.36
		1927	62.64	100.93	66.71	35.47	65.99	7.36	5.53	1.85	74.70	25.30
2.5 to 5.0	All	Average	62.12	103.79	65.78	40.75	63.35	7.19	5.57	1.65	77.08	22.92
		1925	64.36	102.79	66.50	39.23	64.60	7.06	5.50	1.56	78.10	21.90
		1926	61.57	104.10	65.48	40.71	62.96	7.20	5.59	1.65	77.38	22.62
		1927	59.39	104.89	65.09	43.26	61.98	7.39	5.65	1.82	74.90	25.10
5.0 to 15.0	All	Average	64.79	97.12	60.42	37.04	63.12	7.24	5.21	2.03	72.54	27.46
		1925	66.08	96.71	61.70	36.01	64.65	7.34	5.25	2.09	71.88	28.12
		1926	63.88	96.41	59.64	36.77	62.54	7.13	5.16	1.97	73.43	26.57
		1927	64.47	98.45	59.96	38.49	61.77	7.27	5.24	2.03	72.20	27.80
15.0 to 50.0	All	Average	63.42	95.73	62.15	33.58	64.99	6.92	4.87	2.07	70.33	29.67
		1925	64.87	94.87	63.79	31.08	67.23	6.94	4.87	2.07	70.20	29.80
		1926	62.96	95.90	62.06	33.84	64.66	6.88	4.84	2.12	69.51	30.49
		1927	62.36	96.46	60.49	35.97	62.96	6.93	4.91	2.02	71.29	28.71

TABLE 219—(*Continued*)

AVERAGE RATIOS FOR CALIFORNIA MEMBER BANKS, CLASSIFIED BY TYPE, SIZE OF CITY OF LOCATION, AND AVERAGE AMOUNT OF EARNING ASSETS, 1925–1927

Size of City, 1920 (in 000's)	Amount of Earning Assets Average 1925–1927 (in 000,000's)	Years	Ratios									
			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Demand Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets	Total Expense to Gross Earnings	Net Earnings to Gross Earnings
			National Unit Banks, by Size of City—(*Continued*)									
50.0 to 100.0	All	Average	67.10	101.92	63.60	42.03	62.92	7.07	5.66	1.43	80.16	19.84
		1925	64.95	100.72	64.09	44.77	64.18	7.22	5.70	1.52	79.30	20.70
		1926	67.50	102.35	64.48	37.87	63.04	6.99	5.56	1.45	79.98	20.02
		1927	68.96	102.67	61.91	45.29	61.43	7.02	5.73	1.30	81.31	18.69
100.0 and over	All	Average	70.37	91.43	58.67	32.75	64.77	6.75	5.33	1.43	78.81	21.19
		1925	73.24	92.70	65.31	27.39	70.95	7.08	5.64	1.44	79.11	20.89
		1926	70.53	91.60	57.75	33.85	64.13	6.53	5.28	1.25	80.95	19.05
		1927	66.86	89.76	52.09	37.67	58.39	6.61	5.00	1.63	75.75	24.25
			National Unit Banks, by Average Amount of Earning Assets, 1925–1927									
All	Under 1	Average	63.30	101.88	69.14	34.11	67.83	7.41	5.69	1.74	76.75	23.25
		1925	64.81	101.03	70.25	32.25	69.46	7.37	5.65	1.73	76.67	23.33
		1926	63.25	102.07	68.92	34.64	67.56	7.34	5.63	1.73	76.75	23.25
		1927	61.63	102.64	68.12	35.57	66.29	7.53	5.81	1.75	76.84	23.16
All	1 to 2	Average	66.80	98.67	56.07	43.01	57.65	7.22	5.19	2.04	71.80	28.20
		1925	68.21	97.81	57.76	41.14	59.89	7.12	5.20	1.92	73.29	26.71
		1926	67.45	99.36	57.12	42.24	58.64	7.32	5.32	2.02	72.38	27.62
		1927	64.32	98.92	52.79	46.13	53.78	7.22	5.03	2.22	69.26	30.74
All	2 to 3	Average	67.63	101.24	59.42	42.66	60.17	7.07	5.15	1.93	73.18	26.82
		1925	70.01	101.58	62.57	41.18	62.68	7.15	5.31	1.84	74.30	25.70
		1926	66.65	101.53	59.31	42.22	59.85	7.11	5.08	2.03	72.60	27.40
		1927	65.72	100.48	55.54	44.94	57.28	6.93	5.01	1.92	72.42	27.58
All	3 to 4	Average	65.73	93.12	54.13	38.99	58.40	6.71	4.89	1.82	73.60	26.40
		1925	65.73	94.03	57.46	36.57	61.36	6.93	4.80	2.13	71.05	28.95
		1926	66.78	93.94	54.71	39.23	58.50	6.64	5.01	1.63	75.83	24.17
		1927	64.67	91.63	51.06	40.57	56.06	6.62	4.84	1.78	73.27	26.73
All	4 to 5	Average	76.79	110.31	76.90	50.11	69.58	7.14	5.22	1.92	73.27	26.73
		1925	76.28	97.93	71.06	53.74	73.28	6.87	5.08	1.79	73.87	26.13
		1926	76.23	129.01	86.73	42.28	63.79	7.75	5.63	2.12	73.40	26.60
		1927	77.86	103.98	72.91	62.15	71.68	6.82	4.97	1.85	72.54	27.46

			National Unit Banks, by Average Amount of Earning Assets, 1925–1927—(*Continued*)									
All	5 and over	Average	71.51	86.37	53.77	32.60	63.28	6.52	4.97	1.55	76.42	23.58
		1925	72.30	86.68	57.08	29.60	66.81	7.00	5.22	1.78	74.66	25.34
		1926	70.83	86.58	52.18	34.40	61.53	6.28	4.84	1.44	77.46	22.54
		1927	71.22	85.64	50.87	34.77	60.26	6.12	4.76	1.36	77.69	22.31
			National Banks, with Branches, by Size of City									
All	All	Average	70.60	97.63	55.25	42.38	57.01	7.05	5.53	1.52	78.79	21.21
		1925	69.71	96.83	58.58	38.25	60.69	6.86	5.46	1.40	79.48	20.52
		1926	70.07	95.98	56.26	39.72	59.20	7.25	5.61	1.64	78.40	21.60
		1927	71.79	99.74	51.61	48.13	52.05	7.03	5.51	1.52	78.60	21.40
Under 1.5	All	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
1.5 to 2.5	All	Average	76.76	101.60	44.44	57.16	43.09	7.21	6.06	1.16	84.09	15.91
		1925	76.71	95.11	37.78	57.33	39.95	7.18	6.20	0.98	86.10	13.90
		1926	77.60	100.24	45.06	55.18	44.55	7.10	6.05	1.05	85.07	14.93
		1927	75.98	109.46	50.50	58.96	49.79	7.34	5.93	1.44	81.10	18.90
2.5 to 5.0	All	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
5.0 to 15.0	All	Average	48.92	104.37	61.26	43.11	60.49	7.10	4.86	2.24	67.65	32.35
		1925	50.58	104.38	67.52	36.86	66.68	7.02	4.72	2.30	66.40	33.60
		1926	48.53	101.09	61.91	39.18	63.17	6.85	4.57	2.28	66.01	33.99
		1927	46.36	110.93	47.45	63.48	42.78	7.80	5.73	2.07	73.41	26.59
15.0 to 50.0	All	Average	79.94	103.53	55.25	48.28	53.41	8.72	6.03	2.70	70.59	29.41
		1925	71.51	112.13	58.72	53.41	52.37	8.40	6.99	1.41	83.19	16.81
		1926	82.88	103.26	55.58	47.68	53.83	10.70	5.88	4.82	54.93	45.07
		1927	85.42	95.19	51.44	43.75	54.04	7.07	5.21	1.86	73.67	26.33
50.0 to 100.0	All	Average	67.43	99.04	67.63	31.41	68.26	7.10	5.69	1.42	80.34	19.66
		1925	68.40	98.19	71.17	27.02	72.55	6.87	5.72	1.14	83.49	16.51
		1926	66.34	99.82	68.98	30.84	68.65	7.05	5.76	1.29	81.90	18.10
		1927	67.54	99.10	63.72	35.38	64.51	7.32	5.62	1.70	77.21	22.79
100.0 and over	All	Average	75.04	92.70	48.60	44.10	53.36	6.68	5.36	1.33	80.36	19.64
		1925	75.24	90.36	53.24	37.12	58.75	6.34	4.99	1.35	78.91	21.09
		1926	75.11	89.08	49.74	39.34	57.19	6.97	5.66	1.32	81.88	18.12
		1927	74.88	96.88	44.85	52.03	46.89	6.67	5.35	1.32	80.12	19.88
			National Banks with Branches, by Average Amount of Earning Assets, 1925–1927									
All	Under 1	Average	76.76	101.60	44.44	57.16	43.09	7.21	6.06	1.16	84.09	15.91
		1925	76.71	95.11	37.78	57.33	39.95	7.18	6.20	0.98	86.11	13.89
		1926	77.60	100.24	45.06	55.18	44.55	7.10	6.05	1.05	85.07	14.93
		1927	75.98	109.46	50.50	58.97	44.79	7.37	5.93	1.44	81.10	18.90

TABLE 219—(*Continued*)

AVERAGE RATIOS FOR CALIFORNIA MEMBER BANKS, CLASSIFIED BY TYPE, SIZE OF CITY OF LOCATION, AND AVERAGE AMOUNT OF EARNING ASSETS, 1925–1927

Size of City, 1920 (in 000's)	Amount of Earning Assets Average 1925–1927 (in 000,000's)	Years	Ratios									
			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Demand Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets	Total Expense to Gross Earnings	Net Earnings to Gross Earnings
			National Banks with Branches, by Average Amount of Earning Assets, 1925–1927—(*Continued*)									
All	1 to 2	Average	61.09	101.50	68.12	33.38	67.50	7.50	5.36	2.23	71.17	28.83
		1925	59.82	105.40	73.20	32.20	70.33	7.25	5.28	2.15	69.32	30.68
		1926	59.42	99.27	67.78	31.49	68.78	7.92	5.26	2.66	68.55	31.45
		1927	65.50	99.02	61.01	38.01	61.34	7.24	5.58	1.67	76.94	23.06
All	2 to 3	Average	58.71	110.28	60.52	49.76	55.08	7.14	5.57	1.58	78.13	21.87
		1925	59.22	109.89	61.19	48.70	56.09	7.11	5.79	1.32	81.59	18.41
		1926	58.72	112.30	62.85	49.45	55.99	7.08	5.45	1.63	77.09	22.91
		1927	58.20	108.15	57.52	51.13	53.16	7.23	5.46	1.77	75.69	24.31
All	3 to 4	Average	71.71	98.91	57.00	41.91	56.72	7.19	6.09	1.11	85.43	14.57
		1925	74.17	94.46	55.82	38.64	57.22	7.20	6.24	0.96	87.39	12.61
		1926	70.46	100.25	59.54	40.71	58.91	7.20	5.98	1.12	85.12	14.88
		1927	70.50	102.02	55.64	46.38	54.03	7.28	6.04	1.24	83.78	16.22
All	4 to 5	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	5 and over	Average	75.78	90.71	51.23	39.48	57.65	6.75	5.25	1.50	78.07	21.93
		1925	75.25	88.11	58.20	29.91	66.42	6.25	4.78	1.47	76.89	23.11
		1926	76.56	86.06	50.94	35.12	60.45	7.06	5.56	1.50	79.30	20.70
		1927	75.56	95.26	47.55	47.70	50.91	6.82	5.30	1.51	77.92	22.08
			State Unit Banks, by Size of City									
All	All	Average	74.50	99.68	49.33	50.35	50.61	7.65	5.82	1.83	75.98	24.02
		1925	75.18	100.63	50.03	50.60	49.75	7.66	5.87	1.79	76.40	23.60
		1926	75.37	99.81	49.26	50.55	50.65	7.64	5.78	1.86	75.90	24.10
		1927	72.00	97.89	48.28	49.60	51.97	7.66	5.82	1.84	75.40	24.60
Under 1.5	All	Average	55.56	108.19	56.05	52.14	51.81	7.71	5.86	1.86	75.98	24.02
		1925	55.62	109.09	54.81	54.28	50.25	8.13	6.14	1.99	75.55	24.45
		1926	55.47	106.51	54.56	51.95	51.22	7.49	5.77	1.72	77.10	22.90
		1927	55.58	108.98	58.79	50.19	53.95	7.52	5.66	1.86	75.28	24.72

			State Unit Banks, by Size of City—(*Continued*)									
1.5 to 2.5	All	Average	79.64	109.31	54.33	54.97	49.53	8.68	6.80	1.88	78.64	21.36
		1925	80.94	110.16	57.36	52.80	52.06	8.36	7.03	1.33	83.70	16.30
		1926	78.83	111.07	55.79	55.28	50.20	9.35	6.88	2.48	74.42	25.58
		1927	79.16	106.68	49.85	56.83	46.33	8.32	6.49	1.84	77.79	22.21
2.5 to 5.0	All	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
5.0 to 15.0	All	Average	62.55	95.33	41.04	54.29	42.74	6.92	5.10	1.82	73.77	26.23
		1925	66.58	95.66	46.88	48.78	48.76	7.17	5.21	1.95	72.74	27.26
		1926	66.77	94.20	39.00	55.20	40.85	6.82	5.08	1.74	74.52	25.48
		1927	46.04	96.94	33.43	63.51	34.48	6.64	4.94	1.70	74.37	25.63
15.0 to 50.0	All	Average	76.02	99.02	47.45	51.57	47.62	8.10	6.02	2.08	74.28	25.72
		1925	76.48	94.03	43.69	50.34	45.47	8.16	5.78	2.38	70.76	29.24
		1926	77.39	100.98	51.73	49.25	51.87	8.05	6.13	1.92	76.09	23.91
		1927	71.86	110.07	50.18	59.89	45.59	8.04	6.53	1.51	81.21	18.79
50.0 to 100.0	All	Average	68.45	103.27	35.90	67.37	34.78	8.11	6.37	1.74	79.61	20.39
		1925	69.33	103.63	34.21	69.42	32.85	7.99	6.27	1.72	79.35	20.65
		1926	70.78	102.71	33.52	69.19	32.88	7.86	6.32	1.54	82.08	17.92
		1927	62.05	103.69	44.03	59.66	42.46	8.87	6.67	1.10	75.18	24.82
100.0 and over	All	Average	83.63	89.23	54.81	34.42	64.86	6.58	4.91	1.67	73.89	26.11
		1925	82.01	97.30	57.57	39.73	60.07	6.71	5.13	1.58	75.71	24.29
		1926	83.33	90.46	54.81	35.65	64.01	6.50	4.87	1.64	74.22	25.78
		1927	87.48	70.62	49.28	21.34	76.13	6.45	4.55	1.90	69.61	30.39
			State Unit Banks, by Average Amount of Earning Assets, 1925–1927									
All	Under 1	Average	69.57	104.30	49.61	54.69	47.14	8.05	6.20	1.85	77.02	22.98
		1925	71.00	104.21	52.55	51.66	50.25	7.97	6.36	1.61	79.12	20.88
		1926	70.49	103.94	48.50	55.44	46.11	8.30	6.16	2.14	74.89	25.11
		1927	66.65	104.88	47.33	57.55	44.54	7.85	6.07	1.78	77.06	22.94
All	1 to 2	Average	71.94	109.05	53.77	55.27	49.33	7.92	6.29	1.64	79.28	20.72
		1925	72.94	109.05	55.90	53.15	51.25	7.98	6.26	1.72	78.45	21.55
		1926	70.70	109.82	54.11	55.71	49.32	7.89	6.43	1.46	81.39	18.61
		1927	72.17	108.27	51.32	56.96	47.43	7.89	6.16	1.73	77.99	22.01
All	2 to 3	Average	82.26	101.81	79.13	22.68	76.23	7.38	5.16	2.22	70.65	29.35
		1925	80.87	106.56	81.00	25.56	74.18	7.52	5.23	2.29	70.38	29.62
		1926	83.65	97.07	77.26	18.81	78.28	7.24	5.09	2.15	70.91	29.09
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	3 to 4	Average	78.50	77.88	48.04	29.84	69.07	7.09	4.87	2.22	67.44	32.56
		1925	75.44	82.40	52.25	30.15	68.63	7.45	4.99	2.46	65.78	34.22
		1926	79.39	76.92	48.84	28.08	70.57	7.11	4.78	2.33	65.79	34.21
		1927	80.65	74.31	43.04	31.28	68.02	6.72	4.85	1.87	70.75	29.25

TABLE 219—(*Concluded*)

AVERAGE RATIOS FOR CALIFORNIA MEMBER BANKS, CLASSIFIED BY TYPE, SIZE OF CITY OF LOCATION, AND AVERAGE AMOUNT OF EARNING ASSETS, 1925–1927

Size of City, 1920 (in 000's)	Amount of Earning Assets Average 1925–1927 (in 000,000's)	Years	Ratios									
			Loans and Discounts to Earning Assets	Total Deposits to Earning Assets	Demand Deposits to Earning Assets	Time Deposits to Earning Assets	Demand Deposits to Total Deposits	Gross Earnings to Earning Assets	Total Expense to Earning Assets	Net Earnings to Earning Assets	Total Expense to Gross Earnings	Net Earnings to Gross Earnings
			State Unit Banks, by Average Amount of Earning Assets, 1925–1927—(*Continued*)									
All	4 to 5	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	5 and over	Average	78.15	99.84	31.59	68.25	30.98	7.31	5.86	1.45	80.75	19.25
		1925	78.56	98.09	27.35	70.74	26.74	7.27	5.82	1.45	80.28	19.72
		1926	76.41	103.35	28.93	74.42	27.40	7.01	5.84	1.17	83.99	16.01
		1927	75.72	96.31	56.52	39.79	58.69	8.33	6.07	2.26	72.91	27.09
			State Banks, with Branches, by Size of City									
All	All	Average	76.70	103.26	39.26	64.00	38.04	7.43	5.84	1.59	78.39	21.61
		1925	77.21	102.78	40.40	62.38	39.44	7.55	5.98	1.57	78.96	21.04
		1926	77.44	103.84	38.11	65.73	36.66	7.43	5.84	1.59	78.24	21.76
		1927	73.97	103.11	39.12	63.98	37.83	7.20	5.57	1.63	77.41	22.59
Under 1.5	All	Average	59.45	107.45	44.05	63.40	41.03	7.53	5.80	1.73	77.01	22.99
		1925	59.23	106.59	47.20	58.39	44.70	7.48	6.01	1.47	80.37	19.63
		1926	61.51	108.88	43.26	65.62	39.74	7.68	5.72	1.96	74.44	25.56
		1927	57.61	107.87	41.68	66.19	38.64	7.43	5.66	1.77	76.22	23.78
1.5 to 2.5	All	Average	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....
2.5 to 5.0	All	Average	75.28	106.85	25.57	81.28	23.88	7.11	5.64	1.46	78.69	21.31
		1925	78.19	107.18	25.45	81.73	23.64	7.22	5.71	1.51	78.20	21.80
		1926	74.98	108.69	23.81	84.88	21.70	7.04	5.69	1.35	79.95	20.05
		1927	67.48	100.33	31.23	69.10	31.13	6.98	5.33	1.65	76.39	23.61
5.0 to 15.0	All	Average	85.64	98.00	76.77	21.23	78.11	10.36	9.44	0.93	91.02	8.98
		1925	85.88	91.12	68.14	22.98	74.78	10.47	9.62	0.85	91.83	8.17
		1926	85.40	104.87	85.40	19.47	81.43	10.25	9.25	1.00	90.21	9.79
		1927	.....	.....	.....	.....	.....	....	....	....	.....	.....

			State Banks, with Branches, by Size of City—(*Continued*)									
15.0 to 50.0	All	Average.........	86.64	101.86	45.79	56.07	44.94	7.37	5.24	1.95	73.59	26.41
		1925...........	86.65	105.08	48.05	57.03	45.73	7.30	5.33	1.97	73.05	26.95
		1926...........	86.62	98.63	43.53	55.10	44.14	7.43	5.51	1.92	74.13	25.87
		1927...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
50.0 to 100.0	All	Average.........	77.69	122.14	75.08	47.06	61.48	9.36	6.59	2.77	70.45	29.55
		1925...........	77.10	122.63	78.08	44.55	63.67	9.58	6.59	2.99	68.76	31.24
		1926...........	78.71	120.24	74.85	45.39	62.25	9.13	6.41	2.72	70.25	29.75
		1927...........	77.26	123.56	72.31	51.25	58.52	9.37	6.78	2.59	72.34	27.66
100.0 and over	All	Average.........	77.50	100.14	34.87	65.27	35.19	7.07	5.57	1.49	78.78	21.22
		1925...........	76.94	100.37	37.22	63.15	37.28	7.22	5.72	1.50	79.34	20.66
		1926...........	77.93	100.65	32.93	67.72	33.05	7.06	5.53	1.54	78.12	21.88
		1927...........	77.88	98.62	33.55	65.07	34.87	6.76	5.35	1.41	78.86	21.14
			State Banks with Branches, by Average Amount of Earning Assets, 1925–1927									
All	Under 1	Average.........	83.17	106.51	54.33	52.18	52.91	9.13	8.47	0.67	92.91	7.09
		1925...........	83.52	101.95	49.30	52.65	50.90	9.21	8.58	0.63	93.25	6.75
		1926...........	82.81	111.08	59.37	51.71	54.93	9.05	8.35	0.70	92.58	7.42
		1927...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	1 to 2	Average.........	65.79	106.37	30.21	76.16	28.22	7.14	5.36	1.79	74.84	25.16
		1925...........	67.60	104.87	28.11	76.76	26.68	7.11	5.36	1.75	75.20	24.80
		1926...........	68.08	107.12	26.58	80.54	24.57	7.04	5.20	1.84	73.78	26.22
		1927...........	57.61	107.87	41.68	66.19	38.64	7.43	5.66	1.77	76.22	23.78
All	2 to 3	Average.........	76.92	110.36	65.45	44.91	59.31	9.00	6.50	2.50	72.15	27.85
		1925...........	76.92	110.36	65.45	44.91	59.31	9.00	6.50	2.50	72.15	27.85
		1926...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	3 to 4	Average.........	71.66	102.80	32.11	70.69	31.22	6.94	5.04	1.89	72.68	27.32
		1925...........	77.44	104.64	36.89	67.75	35.25	6.95	4.86	2.09	69.90	30.10
		1926...........	70.07	103.43	28.21	75.22	27.28	6.88	4.94	1.94	71.76	28.24
		1927...........	67.48	100.33	31.23	69.10	31.13	6.98	5.33	1.65	76.39	23.61
All	4 to 5	Average.........	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1925...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1926...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
		1927...........	.....	.....	.....	.....	.....	....	....	....	.....	.....
All	5 and over	Average.........	78.15	102.12	38.60	63.52	37.67	7.25	5.64	1.62	77.82	22.18
		1925...........	77.77	101.76	39.18	62.61	38.32	7.27	5.69	1.58	78.54	21.46
		1926...........	78.72	102.12	37.31	64.81	36.41	7.27	5.60	1.67	77.13	22.87
		1927...........	77.78	102.78	40.01	62.76	38.81	7.20	5.59	1.61	77.78	22.22

TABLE 220

AVERAGE RATIOS FOR MEMBER BANKS, BY STATES IN THE TWELFTH DISTRICT, CLASSIFIED BY SIZE OF CITY OF LOCATION, AND AVERAGE AMOUNT OF EARNING ASSETS, 1925 TO 1927

Size of City, 1920 (in 000's)	Amount of Earning Assets, Average 1925–1927 (in 000,000's)	State	Ratios: Gross Earnings to Earning Assets				Ratios: Total Expense to Earning Assets				Ratios: Net Earnings to Earning Assets			
			Average	1925	1926	1927	Average	1925	1926	1927	Average	1925	1926	1927
All	All	California	7.29	7.29	7.27	7.31	5.53	5.54	5.52	5.54	1.77	1.75	1.76	1.79
		Washington	7.70	7.80	7.71	7.58	5.63	5.69	5.65	5.54	2.07	2.12	2.06	2.04
		Oregon	7.57	7.66	7.48	7.56	5.65	5.75	5.62	5.59	1.92	1.94	1.86	1.97
		Idaho	8.11	8.32	7.92	8.05	6.17	6.41	6.03	6.06	1.98	2.02	1.89	2.04
		Utah	8.13	8.20	8.06	8.12	6.04	6.13	5.93	6.06	2.11	2.11	2.13	2.08
		Nevada	7.22	7.10	6.99	7.56	5.12	4.99	5.02	5.34	2.10	2.11	1.97	2.22
		Arizona	8.63	8.71	8.60	8.58	6.83	7.07	6.93	6.48	1.78	1.64	1.67	2.04
Under 1.5	All	California	7.61	7.56	7.61	7.67	5.91	5.88	5.87	5.97	1.72	1.68	1.76	1.73
		Washington	7.93	8.06	7.85	7.87	5.53	5.57	5.66	5.37	2.40	2.49	2.19	2.50
		Oregon	7.89	7.89	7.87	7.91	5.89	5.99	5.84	5.83	2.03	1.98	2.04	2.08
1.5 to 2.5	All	California	7.39	7.34	7.44	7.41	5.56	5.51	5.58	5.59	1.84	1.83	1.86	1.84
		Washington	7.86	7.92	7.96	7.69	5.86	5.94	5.86	5.79	2.00	2.02	2.10	1.90
		Oregon	7.66	7.79	7.61	7.59	5.77	5.89	5.78	5.65	1.89	1.90	1.83	1.94
2.5 to 5.0	All	California	7.19	7.07	7.19	7.38	5.57	5.52	5.60	5.64	1.64	1.55	1.63	1.81
		Washington	7.52	7.62	7.55	7.38	5.44	5.46	5.54	5.33	2.08	2.16	2.01	2.05
		Oregon	7.62	7.76	7.47	7.62	5.75	5.80	5.60	5.83	1.87	1.96	1.87	1.79
5.0 to 15.0	All	California	7.27	7.39	7.17	7.27	5.26	5.32	5.22	5.24	2.01	2.07	1.95	2.02
		Washington	7.44	7.66	7.19	7.48	5.49	5.70	5.25	5.53	1.95	1.96	1.94	1.54
		Oregon	7.30	7.43	7.13	7.32	5.27	5.41	5.24	5.13	2.03	2.02	1.89	2.19
15.0 to 50.0	All	California	7.14	7.19	7.20	7.00	5.06	5.11	5.06	5.02	2.10	2.08	2.23	1.98
		Washington	7.57	7.81	7.53	7.41	5.52	5.76	5.40	5.44	2.05	2.05	2.13	1.97
		Oregon	6.74	6.86	6.56	6.78	5.39	5.35	5.25	5.56	1.35	1.51	1.31	1.22
50.0 to 100.0	All	California	7.30	7.36	7.20	7.35	5.78	5.82	5.72	5.81	1.53	1.56	1.49	1.54
		Washington	....	....	....	....	....	....	....	....	....	....	....	....
		Oregon	....	....	....	....	....	....	....	....	....	....	....	....
100.0 and over	All	California	6.80	6.98	6.76	6.65	5.36	5.52	5.37	5.14	1.45	1.46	1.39	1.52
		Washington	7.50	7.36	7.75	7.38	5.72	5.53	5.94	5.66	1.78	1.83	1.81	1.72
		Oregon	6.92	7.00	6.79	6.99	5.29	5.21	5.39	5.26	1.63	1.79	1.40	1.73

All	Under 1	California	7.44	7.41	7.39	7.31	5.74	5.72	5.69	5.82	1.72	1.70	1.72	1.75
		Washington	7.87	7.97	7.88	7.74	5.74	5.79	5.80	5.63	2.13	2.21	2.08	2.11
		Oregon..........	7.71	7.79	7.64	7.67	5.79	5.89	5.74	5.75	1.92	1.93	1.90	1.92
All	1 to 2	California	7.27	7.16	7.38	7.26	5.26	5.26	5.36	5.19	2.02	1.91	2.03	2.15
		Washington	7.32	7.52	7.17	7.28	5.39	5.61	5.21	5.36	1.93	1.91	1.96	1.92
		Oregon..........	7.27	7.40	7.06	7.32	5.29	5.41	5.26	5.18	1.98	1.99	1.80	2.14
All	2 to 3	California	7.13	7.26	7.12	6.97	5.21	5.40	5.12	5.06	1.92	1.86	2.00	1.91
		Washington	8.59	8.86	8.80	8.14	6.30	6.23	6.60	6.06	2.29	2.63	2.20	2.08
		Oregon..........	7.30	7.15	7.15	7.55	5.55	5.47	5.63	5.53	1.75	1.68	1.52	2.02
All	3 to 4	California	6.87	7.07	6.80	6.76	5.09	5.10	5.12	5.07	1.77	1.97	1.68	1.70
		Washington	7.20	7.24	7.35	7.01	4.97	5.05	4.92	4.94	2.23	2.19	2.43	2.08
		Oregon..........	7.08	7.11	7.05	7.06	5.19	5.30	5.23	5.03	1.89	1.81	1.82	2.03
All	4 to 5	California	7.14	6.87	7.75	6.82	5.22	5.08	5.63	4.97	1.92	1.79	2.12	1.85
		Washington	7.10	7.14	7.31	6.86	5.35	5.49	5.43	5.15	1.75	1.65	1.88	1.71
		Oregon..........	7.36	6.61	7.28	8.21	4.50	4.13	4.79	4.59	2.86	2.48	2.49	3.62
All	5 and over	California	6.86	7.02	6.83	6.69	5.31	5.38	5.32	5.19	1.55	1.64	1.51	1.51
		Washington	6.73	6.46	6.85	6.87	5.04	4.92	5.04	5.14	1.69	1.54	1.81	1.73
		Oregon..........	6.63	7.03	6.59	6.16	5.04	5.15	5.23	4.63	1.59	1.88	1.36	1.51

TABLE 221

Ratios for National Banks, by Cities, 1922–1927

A. Total Loans and Discounts to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	70.65	71.73	70.24	70.16	68.69	71.48	71.45
Chicago (Central Reserve)	84.01	86.52	82.70	82.29	84.81	84.76	83.34
Boston	80.14	81.04	82.36	80.20	83.01	77.58	77.68
Albany	67.95	67.01	67.18	67.10	68.46	67.06	70.61
Brooklyn and Bronx	73.11	76.94	78.75	74.97	70.15	69.64	71.74
Buffalo	67.25	73.08	68.71	65.29	65.19	60.36	66.81
Philadelphia	77.48	75.51	76.20	78.48	76.99	79.84	77.42
Pittsburgh	52.78	58.81	56.96	53.32	49.31	51.11	49.35
Baltimore	72.86	75.81	74.71	79.70	68.86	71.05	68.30
Washington	70.55	65.98	67.94	70.09	70.67	72.57	74.16
Richmond	86.63	85.54	83.70	88.54	89.69	86.50	85.72
Atlanta	82.35	83.57	88.87	92.80	81.70	78.03	74.15
Jacksonville	66.19	70.89	66.16	65.20	71.63	66.96	58.62
Birmingham	80.51	81.04	77.40	79.81	81.32	80.96	81.94
New Orleans	81.63	81.28	76.82	83.04	80.86	83.91	83.55
Dallas	76.12	74.78	70.35	75.16	78.21	80.81	75.25
El Paso	80.16	83.04	84.48	86.37	77.98	75.43	72.30
Ft. Worth	79.02	81.58	79.52	84.80	78.26	76.23	76.39
Galveston	73.46	81.61	80.12	70.12	77.16	70.74	70.50
Houston	78.70	78.92	75.23	81.46	79.97	79.30	77.32
San Antonio	79.17	79.13	78.14	80.84	82.35	76.03	78.89
Waco	79.39	84.00	80.85	82.08	78.53	80.87	71.11
Little Rock	89.25	83.49	80.86	91.00	92.60	93.64	94.87
Louisville	71.32	63.71	70.35	76.14	75.44	76.29	65.67
Memphis	83.42	78.10	79.38	84.15	85.50	90.19	83.92
Nashville	83.03	75.38	77.99	79.85	85.85	88.86	87.76
Cincinnati	66.69	65.19	69.83	67.86	66.01	69.27	58.56
Cleveland	68.03	73.17	67.49	65.15	66.05	68.11	69.48
Columbus	71.73	66.88	71.54	73.96	74.17	73.88	69.69
Toledo	62.88	64.15	67.69	68.72	50.48	53.62	56.71
Indianapolis	74.10	72.19	68.22	72.78	74.21	79.40	76.84
Chicago	48.66	48.13	47.28	47.24	46.48	49.94	51.64
Peoria	67.17	72.23	69.87	71.03	62.03	63.66	65.74
Detroit	78.58	76.25	77.18	79.76	76.32	81.81	79.21
Grand Rapids	77.63	73.32	75.80	75.39	71.82	83.48	85.73
Milwaukee	83.25	88.09	86.96	84.62	83.10	79.31	79.73
Minneapolis	73.99	85.16	77.03	76.96	73.60	69.65	66.18
St. Paul	66.41	67.40	67.88	72.68	61.59	63.71	66.00
Cedar Rapids	69.30	80.60	70.37	66.25	64.45	66.59	69.93
Des Moines	75.45	84.38	72.30	83.68	69.81	75.44	69.23
Dubuque	52.50	54.10	53.54	57.72	52.14	47.63	51.35
Sioux City	76.71	79.96	78.09	82.24	75.82	71.44	72.83
Kansas City, Mo	79.23	83.80	83.44	83.16	77.92	75.34	72.24
St. Joseph	85.43	83.54	85.00	87.28	87.05	84.92	84.59
St. Louis	75.40	79.43	72.55	73.73	74.64	76.78	75.38
Lincoln	79.80	90.49	78.43	79.01	76.58	78.57	78.85
Omaha	82.08	84.42	81.84	85.87	80.89	82.77	76.58
Kansas City, Kans	75.09	78.90	81.02	78.41	70.58	71.33	72.55
Topeka	56.20	62.40	60.14	60.79	58.20	53.40	48.99
Wichita	72.62	75.25	79.72	73.05	66.56	74.55	67.32
Helena	68.86	85.97	68.60	67.39	66.17	66.33	62.07
Denver	61.56	66.58	65.11	62.92	60.86	57.89	57.67
Pueblo	52.02	50.04	54.28	52.47	48.91	53.73	52.47
Muskogee	68.37	78.09	76.53	75.85	70.96	57.77	45.55
Oklahoma City	66.38	67.48	68.65	68.88	70.28	61.29	63.71
Tulsa	82.98	87.64	85.93	88.41	83.09	80.78	76.73
Seattle	62.67	63.49	63.15	64.45	60.60	62.73	61.93
Spokane	81.74	83.85	86.00	84.15	80.58	79.81	76.96
Portland	62.62	72.49	68.05	65.40	56.15	60.63	56.95
Los Angeles	79.66	82.45	80.52	78.90	78.21	79.41	79.58
Oakland	72.58	72.11	73.73	72.23	73.37	74.43	69.85
San Francisco	74.27	75.66	76.18	77.30	75.06	76.91	71.37
Ogden	73.98	75.04	75.27	72.36	73.93	74.90	72.54
Salt Lake City	73.99	78.41	75.38	73.77	70.81	72.27	74.29

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

B. Total Investments to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	29.35	28.27	29.76	29.84	31.31	28.52	28.55
Chicago (Central Reserve)	15.99	13.48	17.30	17.71	15.19	15.24	16.66
Boston	19.86	18.96	17.64	19.80	16.99	22.42	22.32
Albany	32.05	32.99	32.82	32.90	31.54	32.94	29.39
Brooklyn and Bronx	26.89	23.06	21.25	25.03	29.85	30.36	28.26
Buffalo	32.75	26.92	31.29	34.71	34.81	39.64	33.19
Philadelphia	22.52	24.49	23.80	21.52	23.01	20.16	22.58
Pittsburgh	47.22	41.19	43.04	46.68	50.69	48.89	50.65
Baltimore	27.14	24.19	25.29	20.30	31.14	28.95	31.70
Washington	29.45	34.02	32.06	29.91	29.33	27.43	25.84
Richmond	13.37	14.46	16.30	11.46	10.31	13.50	14.28
Atlanta	17.65	16.43	11.13	7.20	18.30	21.97	25.85
Jacksonville	33.81	29.11	33.84	34.80	28.37	33.04	41.38
Birmingham	19.49	18.96	22.60	20.19	18.68	19.04	18.06
New Orleans	18.37	18.72	23.18	16.96	19.14	16.09	16.45
Dallas	23.88	25.22	29.65	24.84	21.79	19.19	24.75
El Paso	19.84	16.96	15.52	13.63	22.02	24.57	27.70
Ft. Worth	20.98	18.42	20.48	15.20	21.74	23.77	23.61
Galveston	26.54	18.39	19.88	29.88	22.84	29.26	29.50
Houston	21.30	21.08	24.77	18.54	20.03	20.70	22.68
San Antonio	20.83	20.87	21.86	19.16	17.65	23.97	21.11
Waco	20.61	16.00	19.15	17.92	21.47	19.13	28.89
Little Rock	10.75	16.51	19.14	9.00	7.40	6.36	5.13
Louisville	28.68	36.29	29.65	23.86	24.56	23.71	34.33
Memphis	16.58	21.90	20.62	15.85	14.50	9.81	16.08
Nashville	16.97	24.62	22.01	20.15	14.15	11.14	12.24
Cincinnati	33.31	34.81	30.17	32.14	33.99	30.73	41.44
Cleveland	31.97	26.83	32.51	34.85	33.95	31.89	30.52
Columbus	28.27	33.12	28.46	26.04	25.83	26.12	30.31
Toledo	37.12	35.85	32.31	31.28	49.52	46.38	43.29
Indianapolis	25.90	27.81	31.78	27.22	25.79	20.60	23.16
Chicago	51.34	51.87	52.72	52.76	53.52	50.06	48.36
Peoria	32.83	27.77	30.13	28.97	37.97	36.34	34.26
Detroit	21.42	23.75	22.82	20.24	23.68	18.19	20.79
Grand Rapids	22.37	26.68	24.20	24.61	28.18	16.52	14.27
Milwaukee	16.75	11.91	13.04	15.38	16.90	20.69	20.27
Minneapolis	26.01	14.84	22.97	23.04	26.40	30.35	33.82
St. Paul	33.59	32.60	32.12	27.32	38.41	36.29	34.00
Cedar Rapids	30.70	19.40	29.63	33.75	35.55	33.41	30.07
Des Moines	24.55	15.62	27.70	16.32	30.19	24.56	30.77
Dubuque	47.50	45.90	46.46	42.28	47.86	52.37	48.65
Sioux City	23.29	20.04	21.91	17.76	24.18	28.56	27.17
Kansas City, Mo	20.77	16.20	16.56	16.84	22.08	24.66	27.76
St. Joseph	14.57	16.46	15.00	12.72	12.95	15.08	15.41
St. Louis	24.60	20.57	27.45	26.27	25.36	23.22	24.62
Lincoln	20.20	9.51	21.57	20.99	23.42	21.43	21.15
Omaha	17.92	15.58	18.16	14.13	19.11	17.23	23.42
Kansas City, Kans	24.91	21.10	18.98	21.59	29.42	28.67	27.45
Topeka	43.80	37.60	39.86	39.21	41.80	46.60	51.01
Wichita	27.38	24.75	20.28	26.95	33.44	25.45	32.68
Helena	31.14	14.03	31.40	32.61	33.83	33.67	37.93
Denver	38.44	33.42	34.89	37.08	39.14	42.11	42.33
Pueblo	47.98	49.96	45.72	47.53	51.09	46.27	47.53
Muskogee	31.63	21.91	23.47	24.15	29.04	42.23	54.45
Oklahoma City	33.62	32.52	31.35	31.12	29.72	38.71	36.29
Tulsa	17.02	12.36	14.07	11.59	16.91	19.22	23.27
Seattle	37.33	36.51	36.85	35.55	39.40	37.27	38.07
Spokane	18.26	16.15	14.00	15.85	19.42	20.19	23.04
Portland	37.38	27.51	31.95	34.60	43.85	39.37	43.05
Los Angeles	20.34	17.55	19.48	21.10	21.79	20.59	20.42
Oakland	27.42	27.89	26.27	27.77	26.63	25.57	30.15
San Francisco	25.73	24.34	23.82	22.70	24.94	23.09	28.63
Ogden	26.02	24.96	24.73	27.64	26.07	25.10	27.46
Salt Lake City	26.01	21.59	24.62	26.23	29.19	27.73	25.71

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

C. Total Deposits to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	79.20	79.92	72.80	77.18	81.36	80.93	81.81
Chicago (Central Reserve)	77.80	72.09	73.78	76.81	81.46	78.05	82.76
Boston	86.07	81.90	80.71	87.02	90.52	88.17	86.48
Albany	99.11	96.84	94.04	97.40	98.58	99.41	107.06
Brooklyn and Bronx	89.75	87.19	90.18	91.30	92.04	89.49	88.53
Buffalo	101.95	104.12	99.30	105.93	108.11	87.58	88.06
Philadelphia	78.40	73.82	74.79	78.47	81.52	80.61	80.02
Pittsburgh	75.11	72.51	71.77	73.42	76.92	77.87	76.90
Baltimore	77.14	76.42	70.89	77.58	79.56	79.77	78.66
Washington	94.51	93.45	87.25	94.66	94.93	98.20	96.92
Richmond	72.60	67.91	67.54	73.56	73.68	76.38	77.89
Atlanta	91.25	87.54	87.00	95.31	94.14	91.84	90.10
Jacksonville	92.38	93.89	89.00	94.46	85.85	100.54	90.35
Birmingham	98.72	92.60	100.36	104.95	97.11	95.58	98.36
New Orleans	83.44	84.66	81.24	94.16	84.75	76.51	81.67
Dallas	82.15	86.45	85.72	82.42	82.70	82.77	75.95
El Paso	96.60	88.18	87.55	108.06	103.45	99.45	97.76
Ft. Worth	92.98	98.10	90.77	89.18	92.43	93.12	94.62
Galveston	86.84	93.92	93.56	91.29	76.99	89.43	86.72
Houston	90.70	87.34	84.44	89.53	92.35	95.54	92.68
San Antonio	93.85	82.97	81.79	91.59	102.00	100.69	99.32
Waco	88.45	84.44	84.47	86.44	89.29	89.81	94.93
Little Rock	77.38	75.33	67.79	88.58	82.46	69.85	83.08
Louisville	69.42	63.93	58.85	72.50	74.91	73.50	71.87
Memphis	95.34	96.58	88.40	90.90	92.54	100.97	103.31
Nashville	77.43	78.43	74.75	72.70	75.53	76.99	85.39
Cincinnati	70.87	65.09	63.50	73.47	71.69	73.50	82.87
Cleveland	84.48	78.30	81.92	83.60	84.45	88.23	87.80
Columbus	85.85	88.68	79.12	86.31	87.86	85.87	87.27
Toledo	80.46	81.45	74.27	87.00	82.05	75.92	87.60
Indianapolis	78.04	74.96	70.39	77.51	78.88	79.83	85.87
Chicago	104.40	102.35	103.57	105.27	107.75	106.09	100.78
Peoria	78.99	77.16	74.99	79.26	76.69	81.82	83.04
Detroit	97.92	100.90	95.87	103.06	96.74	96.19	96.85
Grand Rapids	95.52	86.62	91.14	93.52	99.21	104.61	97.01
Milwaukee	80.65	79.55	74.28	83.74	84.41	81.02	79.88
Minneapolis	82.46	72.92	79.74	87.28	84.59	82.62	85.11
St. Paul	88.08	83.31	78.50	92.34	86.90	89.45	96.47
Cedar Rapids	61.45	60.89	49.80	61.34	59.69	61.81	73.17
Des Moines	70.38	68.19	59.77	70.82	66.73	75.99	81.84
Dubuque	93.63	81.91	92.88	99.17	91.67	93.05	98.78
Sioux City	73.75	69.53	68.05	77.04	72.82	75.40	80.67
Kansas City, Mo	67.13	63.44	61.72	67.90	68.26	68.47	73.01
St. Joseph	70.52	68.02	65.32	71.45	69.17	70.61	79.23
St. Louis	76.04	72.63	70.01	75.26	79.70	79.95	76.62
Lincoln	78.36	73.40	75.59	83.74	73.73	81.26	82.07
Omaha	81.68	80.94	71.25	86.18	85.12	83.57	85.02
Kansas City, Kans	82.69	88.85	77.42	82.62	77.35	84.43	85.61
Topeka	95.89	94.95	88.32	86.20	97.47	99.26	101.26
Wichita	84.63	76.76	79.46	91.10	90.29	84.57	86.25
Helena	88.89	79.76	89.24	86.76	91.30	90.94	93.28
Denver	103.17	100.99	98.29	105.56	101.88	106.12	105.17
Pueblo	104.09	88.94	104.72	112.05	112.32	93.42	111.09
Muskogee	90.85	91.19	88.48	88.49	84.85	94.02	99.94
Oklahoma City	98.60	98.74	96.21	104.90	96.09	101.09	96.68
Tulsa	109.37	123.24	100.88	107.89	109.66	109.75	107.39
Seattle	99.73	103.60	99.87	101.75	96.52	97.22	100.25
Spokane	88.85	88.70	85.53	88.03	89.08	90.29	91.06
Portland	99.86	94.48	97.21	98.59	103.63	101.80	101.46
Los Angeles	94.33	90.05	93.64	93.83	93.24	95.46	97.23
Oakland	84.45	83.06	82.97	83.73	87.97	81.13	87.80
San Francisco	82.52	75.92	68.92	81.77	81.49	79.48	91.00
Ogden	86.96	80.52	91.65	91.12	89.31	82.88	86.91
Salt Lake City	87.84	83.09	85.74	92.50	86.82	90.54	87.51

TABLE 221—(*Continued*)

Ratios for National Banks, by Cities, 1922–1927

D. Total Demand Deposits to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	68.76	70.47	63.35	68.05	70.63	70.46	68.79
Chicago (Central Reserve)	70.17	68.34	68.91	70.95	72.54	68.54	71.30
Boston	66.99	72.79	66.94	69.61	69.04	65.58	60.87
Albany	83.83	82.06	79.57	83.57	81.29	82.62	93.22
Brooklyn and Bronx	78.25	84.00	84.54	82.70	80.74	73.86	70.94
Buffalo	62.02	86.74	64.03	63.33	65.06	21.32	22.45
Philadelphia	66.70	69.90	68.38	68.54	68.64	64.19	61.91
Pittsburgh	60.22	63.34	62.07	58.40	60.02	60.12	58.30
Baltimore	59.75	65.36	58.55	61.84	57.30	60.59	55.75
Washington	64.19	66.69	59.13	64.03	63.25	67.97	63.80
Richmond	45.72	43.87	41.77	46.61	45.91	48.90	48.06
Atlanta	58.99	59.44	55.46	62.00	62.88	59.60	54.49
Jacksonville	45.67	45.47	39.81	45.41	44.63	56.24	39.59
Birmingham	55.35	49.82	56.28	55.71	55.46	55.53	57.80
New Orleans	75.15	81.97	74.12	82.94	74.86	67.82	71.59
Dallas	66.70	76.22	70.01	64.75	65.51	67.53	60.23
El Paso	60.57	52.02	52.98	64.60	68.24	64.41	65.27
Ft. Worth	72.54	77.82	72.13	67.17	72.02	73.42	73.05
Galveston	32.45	39.45	38.13	31.53	26.63	34.90	32.83
Houston	62.98	63.78	59.47	61.48	64.42	65.23	62.85
San Antonio	69.29	69.27	62.06	69.33	74.53	71.46	68.68
Waco	59.28	64.36	60.14	57.91	60.34	56.58	57.17
Little Rock	51.32	45.41	48.61	63.14	54.12	45.45	49.89
Louisville	43.13	41.39	37.63	44.10	45.89	47.95	41.74
Memphis	56.68	64.23	57.00	55.07	51.41	57.87	55.06
Nashville	47.06	53.63	49.00	46.57	45.67	43.75	45.35
Cincinnati	53.74	54.17	50.91	56.54	51.43	53.42	58.24
Cleveland	41.82	48.18	45.48	44.23	37.19	39.77	38.91
Columbus	69.96	78.03	68.90	70.32	67.04	67.12	69.49
Toledo	48.07	58.31	52.68	47.68	42.15	30.49	32.68
Indianapolis	68.52	68.64	65.36	70.30	70.81	67.45	68.90
Chicago	38.20	36.07	35.62	36.92	40.97	41.45	36.60
Peoria	45.14	42.77	42.90	46.45	42.76	47.43	47.80
Detroit	77.04	86.45	81.46	86.76	72.03	71.65	71.84
Grand Rapids	48.25	43.09	46.36	46.00	51.55	54.08	47.74
Milwaukee	54.50	53.13	49.91	56.87	57.84	55.55	52.81
Minneapolis	54.09	56.66	54.15	56.75	55.95	52.03	50.41
St. Paul	61.23	56.72	59.46	72.00	60.87	59.26	59.35
Cedar Rapids	31.11	33.01	26.14	30.71	28.53	32.26	35.73
Des Moines	55.55	54.40	47.48	54.43	51.69	59.84	66.38
Dubuque	37.95	42.41	36.77	41.56	36.44	35.30	37.17
Sioux City	41.21	40.93	36.44	41.90	39.97	42.00	46.84
Kansas City, Mo.	61.15	58.57	56.83	62.68	62.98	62.39	63.68
St. Joseph	38.34	38.03	35.79	37.20	35.20	39.02	45.44
St. Louis	54.55	55.61	50.94	53.98	56.36	57.49	52.61
Lincoln	59.92	68.50	54.37	62.36	55.42	60.63	61.14
Omaha	65.53	66.63	56.04	68.54	70.17	66.47	66.83
Kansas City, Kans.	65.06	73.60	63.02	66.11	62.15	68.38	59.56
Topeka	87.72	91.42	84.34	81.78	87.30	88.97	90.26
Wichita	60.82	48.62	55.62	67.66	67.50	62.69	63.29
Helena	57.78	51.48	57.60	58.64	59.98	58.37	59.46
Denver	59.87	59.54	55.85	57.55	59.47	64.04	62.16
Pueblo	71.39	68.34	75.35	78.44	77.86	57.51	71.44
Muskogee	56.09	58.92	51.15	51.71	46.98	62.25	68.55
Oklahoma City	68.74	70.21	66.68	71.43	65.30	73.60	65.99
Tulsa	84.04	96.44	79.62	84.90	86.33	80.30	81.10
Seattle	65.47	70.64	66.56	65.75	62.00	62.62	66.29
Spokane	43.33	48.52	44.84	41.62	40.29	42.57	43.04
Portland	53.37	57.10	56.41	53.04	53.48	51.88	50.20
Los Angeles	58.14	64.09	69.22	65.17	60.11	53.33	45.86
Oakland	66.33	66.92	64.55	62.18	72.96	65.05	67.07
San Francisco	50.04	60.72	55.15	60.65	59.78	61.81	35.84
Ogden	61.46	48.83	68.37	68.59	63.42	57.65	63.35
Salt Lake City	61.32	61.01	58.64	63.75	59.69	63.40	61.24

TABLE 221—(*Continued*)

Ratios for National Banks, by Cities, 1922–1927

E. Total Demand Deposits to Total Deposits

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	86.80	88.18	87.02	88.17	86.81	87.07	84.08
Chicago (Central Reserve)	90.20	94.80	93.37	92.37	89.05	87.82	86.16
Boston	77.83	88.87	82.93	79.99	76.27	74.38	70.38
Albany	84.59	84.74	84.61	85.80	82.46	83.11	87.07
Brooklyn and Bronx	87.18	96.34	93.74	90.58	87.73	82.54	80.13
Buffalo	60.84	83.30	64.48	59.79	60.18	24.34	25.50
Philadelphia	85.07	94.68	91.41	87.35	84.20	79.63	77.37
Pittsburgh	80.18	87.35	86.48	79.54	78.03	77.21	75.81
Baltimore	77.46	85.52	82.58	79.70	72.02	75.97	70.87
Washington	67.92	71.37	67.78	67.64	66.63	69.17	65.82
Richmond	62.98	64.60	61.84	63.36	62.31	64.02	61.71
Atlanta	64.65	67.90	63.74	65.04	66.79	64.90	60.48
Jacksonville	49.43	48.43	44.73	48.07	51.99	55.93	43.82
Birmingham	56.07	53.80	56.08	53.09	57.11	56.33	58.76
New Orleans	90.07	96.82	91.23	88.08	88.33	88.64	87.65
Dallas	81.20	88.17	81.67	78.56	79.22	81.59	79.31
El Paso	62.71	58.99	60.51	59.78	65.96	64.77	66.76
Ft. Worth	78.01	79.33	79.46	75.32	77.92	78.85	77.20
Galveston	37.37	42.01	40.74	34.54	34.59	39.03	37.86
Houston	69.43	73.03	70.42	68.66	69.76	68.28	67.82
San Antonio	73.83	83.48	76.88	75.69	73.07	70.98	69.15
Waco	67.02	76.22	71.19	67.00	67.58	62.99	60.22
Little Rock	66.32	60.28	71.70	71.27	65.63	65.07	60.06
Louisville	62.12	64.74	63.94	60.82	61.27	65.24	58.07
Memphis	59.45	66.50	64.48	60.58	55.55	57.32	56.94
Nashville	60.78	68.39	65.54	64.06	60.46	56.83	53.10
Cincinnati	75.83	83.22	80.17	76.95	71.75	72.67	70.27
Cleveland	49.51	61.53	55.51	52.90	44.04	45.08	44.32
Columbus	81.48	87.99	87.06	81.47	76.30	78.17	79.63
Toledo	59.74	71.58	70.92	54.81	51.37	40.16	37.31
Indianapolis	87.80	91.56	92.86	90.70	89.77	84.49	80.23
Chicago	36.59	35.24	34.39	35.07	38.03	39.03	36.31
Peoria	57.14	55.42	57.21	58.61	55.76	57.97	57.56
Detroit	78.68	85.68	84.97	84.18	74.46	74.49	74.18
Grand Rapids	50.51	49.75	50.87	49.19	51.96	51.69	49.21
Milwaukee	67.57	66.80	67.19	67.92	68.52	68.57	66.11
Minneapolis	65.60	77.70	67.90	65.02	66.15	62.97	59.23
St. Paul	69.51	68.08	75.72	77.97	70.04	66.25	61.52
Cedar Rapids	50.63	54.22	52.50	50.06	47.79	52.18	48.83
Des Moines	78.94	79.78	79.45	76.86	77.46	78.75	81.11
Dubuque	40.53	51.77	39.60	41.91	39.75	37.93	37.63
Sioux City	55.88	58.87	53.54	54.39	54.89	55.70	58.07
Kansas City, Mo	91.10	92.32	92.08	92.30	92.27	91.12	87.22
St. Joseph	54.36	55.91	54.79	52.06	50.90	55.26	57.36
St. Louis	71.74	76.56	72.76	71.72	70.72	71.91	68.67
Lincoln	76.47	93.34	71.94	74.47	75.16	74.61	74.50
Omaha	80.22	82.33	78.64	79.53	82.44	79.53	78.60
Kansas City, Kans	78.68	82.83	81.40	80.02	80.35	80.99	69.57
Topeka	91.49	96.28	95.48	94.88	89.57	89.64	89.14
Wichita	71.86	63.64	70.00	74.27	74.76	74.13	73.39
Helena	65.00	64.55	64.54	67.59	65.69	64.18	63.74
Denver	58.03	58.96	56.82	54.60	58.37	60.35	59.11
Pueblo	68.58	76.83	71.95	70.00	69.32	61.56	64.30
Muskogee	61.73	64.61	57.81	58.44	55.37	66.21	68.59
Oklahoma City	69.71	71.10	70.04	68.09	67.96	72.81	68.26
Tulsa	76.84	78.26	78.93	78.69	78.73	73.17	75.52
Seattle	65.65	68.18	66.64	64.61	64.24	64.42	60.14
Spokane	48.77	54.71	52.42	47.28	45.23	47.14	47.26
Portland	53.44	60.43	58.03	53.80	51.61	50.96	49.48
Los Angeles	61.64	71.17	73.92	69.45	64.47	55.86	47.17
Oakland	78.54	80.57	77.80	74.26	82.94	80.19	76.39
San Francisco	60.65	79.98	80.01	74.17	73.37	77.76	39.38
Ogden	70.68	60.65	74.60	75.28	71.01	69.55	72.90
Salt Lake City	69.81	73.43	68.39	68.92	68.75	70.03	69.98

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

F. Total Time Deposits to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	10.44	9.45	9.45	9.13	10.73	10.47	13.02
Chicago (Central Reserve)	7.63	3.75	4.87	5.86	8.92	9.51	11.46
Boston	19.08	9.11	13.77	17.41	21.48	22.59	25.61
Albany	15.28	14.78	14.47	13.83	17.29	16.79	13.84
Brooklyn and Bronx	11.50	3.19	5.64	8.60	11.30	15.63	17.59
Buffalo	39.93	17.38	35.27	42.60	43.05	66.26	65.61
Philadelphia	11.70	3.92	6.41	9.93	12.88	16.42	18.11
Pittsburgh	14.89	9.17	9.70	15.02	16.90	17.75	18.60
Baltimore	17.39	11.06	12.34	15.74	22.26	19.18	22.91
Washington	30.32	26.76	28.12	30.63	31.68	30.29	33.12
Richmond	26.88	24.04	25.77	26.95	27.77	27.48	29.83
Atlanta	32.26	28.10	31.54	33.31	31.26	32.24	35.61
Jacksonville	46.71	48.42	49.19	49.05	41.22	44.30	50.76
Birmingham	43.37	42.78	44.08	49.24	41.65	43.05	40.56
New Orleans	8.29	2.69	7.12	11.22	9.89	8.69	10.08
Dallas	15.45	10.23	15.71	17.67	17.19	15.24	15.72
El Paso	36.03	36.16	34.57	43.46	35.21	35.04	32.49
Ft. Worth	20.44	20.28	18.64	22.01	20.41	19.70	21.57
Galveston	54.39	54.47	55.43	59.76	50.36	54.53	53.89
Houston	27.72	23.56	24.97	28.05	27.93	30.31	29.83
San Antonio	24.56	13.70	19.73	22.26	27.47	29.23	30.64
Waco	29.17	20.08	24.33	28.53	28.95	33.23	37.76
Little Rock	26.06	29.92	19.18	25.44	28.34	24.40	33.19
Louisville	26.29	22.54	21.22	28.40	29.02	25.55	30.13
Memphis	38.66	32.35	31.40	35.83	41.13	43.10	48.25
Nashville	30.37	24.80	25.75	26.13	29.86	33.24	40.04
Cincinnati	17.13	10.92	12.59	16.93	20.26	20.08	24.63
Cleveland	42.66	30.12	36.44	39.37	47.26	48.46	48.89
Columbus	15.89	10.65	10.22	15.99	20.82	18.75	17.78
Toledo	32.39	23.14	21.59	39.32	39.90	45.43	54.92
Indianapolis	9.52	6.32	5.03	7.21	8.07	12.38	16.97
Chicago	66.20	66.28	67.95	68.35	66.78	64.74	64.18
Peoria	33.85	34.39	32.09	32.81	33.93	34.39	35.24
Detroit	20.88	14.45	14.41	16.30	24.71	24.54	25.01
Grand Rapids	47.27	43.53	44.78	47.52	47.66	50.53	49.27
Milwaukee	26.15	26.42	24.37	26.87	26.57	25.47	27.07
Minneapolis	28.37	16.26	25.59	30.53	28.64	30.59	34.70
St. Paul	26.85	26.59	19.04	20.34	26.03	30.19	37.12
Cedar Rapids	30.34	27.88	23.66	30.63	31.16	29.55	37.44
Des Moines	14.83	13.79	12.29	16.39	15.04	16.15	15.46
Dubuque	55.68	39.50	56.11	57.61	55.23	57.75	61.61
Sioux City	32.54	28.60	31.61	35.14	32.85	33.40	33.83
Kansas City, Mo	5.98	4.87	4.89	5.22	5.28	6.08	9.33
St. Joseph	32.18	29.99	29.53	34.25	33.97	31.59	33.79
St. Louis	21.49	17.02	19.07	21.28	23.34	22.46	24.01
Lincoln	18.44	4.90	21.22	21.38	18.31	20.63	20.93
Omaha	16.15	14.31	15.21	17.64	14.95	17.10	18.19
Kansas City, Kans	17.63	15.25	14.40	16.51	15.20	16.05	26.05
Topeka	8.17	3.53	3.98	4.42	10.17	10.29	11.00
Wichita	23.81	28.14	23.84	23.44	22.79	21.88	22.96
Helena	31.11	28.28	31.64	28.12	31.32	32.57	33.82
Denver	43.30	41.45	42.44	48.01	42.41	42.08	43.01
Pueblo	32.70	20.60	29.37	33.61	34.46	35.91	39.65
Muskogee	34.76	32.27	37.33	36.78	37.87	31.77	31.39
Oklahoma City	29.86	28.53	28.53	33.47	30.79	27.49	30.69
Tulsa	25.33	26.80	21.26	22.99	23.33	29.45	26.29
Seattle	34.26	32.96	33.31	36.00	34.52	34.60	33.96
Spokane	45.52	40.18	40.69	46.41	48.79	47.72	48.02
Portland	46.49	37.38	40.80	45.55	50.15	49.92	51.26
Los Angeles	36.19	25.96	24.42	28.66	33.13	42.13	51.37
Oakland	18.12	16.14	18.42	21.55	15.01	16.08	20.73
San Francisco	32.48	15.20	13.77	21.12	21.71	17.67	55.16
Ogden	25.50	31.69	23.28	22.53	25.89	25.23	23.56
Salt Lake City	26.52	22.08	27.10	28.75	27.13	27.14	26.27

TABLE 221—(*Continued*)

Ratios for National Banks, by Cities, 1922–1927

G. Total Time Deposits to Total Deposits

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	13.20	11.82	12.98	11.83	13.19	12.93	15.92
Chicago (Central Reserve)	9.80	5.20	6.63	7.63	10.95	12.18	13.84
Boston	22.17	11.13	17.07	20.01	23.93	25.62	29.62
Albany	15.41	15.26	15.39	14.20	17.54	16.89	12.93
Brooklyn and Bronx	12.82	3.66	6.26	9.42	12.27	17.46	19.87
Buffalo	39.16	16.70	35.52	40.21	39.82	75.66	74.50
Philadelphia	14.93	5.32	8.59	12.65	15.80	20.37	22.63
Pittsburgh	19.82	12.65	13.52	20.46	21.97	22.79	24.19
Baltimore	22.54	14.48	17.42	20.30	27.98	24.03	29.13
Washington	32.08	28.63	32.22	32.36	33.37	30.83	34.18
Richmond	37.02	35.40	38.16	36.64	37.69	35.98	38.29
Atlanta	35.35	32.10	36.26	34.96	33.21	35.10	39.52
Jacksonville	50.57	51.57	55.27	51.93	48.01	44.07	56.18
Birmingham	43.93	46.20	43.92	46.91	42.89	43.67	41.24
New Orleans	9.93	3.18	8.77	11.92	11.67	11.36	12.35
Dallas	18.80	11.83	18.33	21.44	20.78	18.41	20.69
El Paso	37.29	41.01	39.49	40.22	34.04	35.23	33.24
Ft. Worth	21.99	20.67	20.54	24.68	22.08	21.15	22.80
Galveston	62.63	57.99	59.26	65.46	65.41	60.97	62.14
Houston	30.57	26.97	29.58	31.34	30.24	31.72	32.18
San Antonio	26.17	16.52	24.12	24.31	26.93	29.02	30.85
Waco	32.98	23.78	28.81	33.00	32.42	37.01	39.78
Little Rock	33.68	39.72	28.30	28.73	34.37	34.93	39.94
Louisville	37.88	35.26	36.06	39.18	38.73	34.76	41.93
Memphis	40.55	33.50	35.52	39.42	44.45	42.68	43.06
Nashville	39.22	31.61	34.46	35.94	39.54	43.17	46.90
Cincinnati	24.17	16.78	19.83	23.05	28.25	27.33	29.73
Cleveland	50.49	38.47	44.49	47.10	55.96	54.92	55.68
Columbus	18.52	12.01	12.94	18.53	23.70	21.83	20.37
Toledo	40.26	28.42	29.08	45.19	48.63	59.84	62.69
Indianapolis	12.20	8.44	7.14	9.30	10.23	15.51	19.77
Chicago	63.41	64.76	65.61	64.93	61.97	60.97	63.69
Peoria	42.86	44.58	42.79	41.39	44.24	42.03	42.44
Detroit	21.32	14.32	15.03	15.82	25.54	25.51	25.82
Grand Rapids	49.49	50.25	49.13	50.81	48.04	48.31	50.79
Milwaukee	32.43	33.20	32.81	32.08	31.48	31.43	33.89
Minneapolis	34.40	22.30	32.10	34.98	33.85	37.03	40.77
St. Paul	30.49	31.92	24.28	22.03	29.96	33.75	38.48
Cedar Rapids	49.37	45.78	47.50	49.94	52.21	47.82	51.17
Des Moines	21.06	20.22	20.55	23.14	22.54	21.25	18.89
Dubuque	59.47	48.23	60.40	58.09	60.25	62.07	62.37
Sioux City	44.12	41.13	46.46	45.61	45.11	44.30	41.93
Kansas City, Mo	8.90	7.68	7.92	7.70	7.73	8.88	12.78
St. Joseph	45.64	44.09	45.21	47.94	49.10	44.74	42.64
St. Louis	28.26	23.44	27.24	28.28	29.28	28.09	31.33
Lincoln	23.53	6.66	28.06	25.53	24.84	25.39	25.50
Omaha	19.78	17.67	21.36	20.47	17.56	20.47	21.40
Kansas City, Kans	21.32	17.17	18.60	19.98	19.65	19.01	30.43
Topeka	8.51	3.72	4.52	5.12	10.43	10.36	10.86
Wichita	28.14	36.66	30.00	25.73	25.24	25.87	26.61
Helena	35.00	35.45	35.46	32.41	34.31	35.82	36.26
Denver	41.97	41.04	43.18	45.40	41.63	39.65	40.89
Pueblo	31.42	23.17	28.05	30.00	30.68	38.44	35.70
Muskogee	38.27	35.39	42.19	41.56	44.63	33.79	31.41
Oklahoma City	30.29	28.90	29.96	31.91	32.04	27.19	31.74
Tulsa	23.16	21.74	21.07	21.31	21.27	26.83	24.48
Seattle	34.35	31.82	33.36	35.39	35.76	35.58	39.86
Spokane	51.23	45.29	47.58	52.72	54.77	52.86	52.74
Portland	46.56	39.57	41.97	46.20	48.39	49.04	50.52
Los Angeles	38.36	28.83	26.08	30.55	35.53	44.14	52.83
Oakland	21.46	19.43	22.20	25.74	17.06	19.81	23.61
San Francisco	39.35	20.02	19.99	25.83	26.63	22.24	60.62
Ogden	29.32	39.35	25.40	24.72	28.99	30.45	27.10
Salt Lake City	30.19	26.57	31.61	31.08	31.25	29.97	30.02

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

H. Total Gross Earnings to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	5.88	6.36	6.23	5.51	5.60	5.79	5.83
Chicago (Central Reserve)	5.52	6.81	5.63	5.65	4.91	5.22	5.14
Boston	5.49	6.30	4.60	5.52	5.83	5.21	5.67
Albany	5.46	6.09	6.05	5.58	5.21	5.18	4.90
Brooklyn and Bronx	5.56	6.21	5.87	5.35	5.72	5.56	5.05
Buffalo	6.12	6.64	5.90	6.51	5.68	5.90	6.12
Philadelphia	5.75	6.31	5.67	5.77	5.39	5.76	5.68
Pittsburgh	6.15	6.70	6.30	5.71	6.29	5.95	6.06
Baltimore	6.06	6.44	5.85	6.33	5.37	6.28	6.18
Washington	6.12	6.18	5.87	6.40	6.04	6.19	6.03
Richmond	6.45	6.59	6.25	6.71	6.11	7.15	5.89
Atlanta	6.77	6.86	7.60	6.28	7.27	6.63	6.28
Jacksonville	6.66	6.81	6.74	6.62	5.41	7.53	6.92
Birmingham	6.78	6.77	6.74	7.00	6.51	6.84	6.84
New Orleans	7.88	8.00	7.58	8.92	7.46	7.52	7.98
Dallas	6.76	6.55	7.21	7.28	5.97	7.35	6.40
El Paso	7.34	8.00	7.48	8.39	6.43	6.80	6.83
Ft. Worth	7.05	8.36	6.60	7.88	6.62	6.31	7.12
Galveston	6.38	7.78	7.08	5.39	6.43	6.88	6.04
Houston	6.85	7.04	7.01	7.47	6.49	6.81	6.48
San Antonio	7.78	7.87	7.78	8.14	7.98	8.54	6.67
Waco	7.64	8.28	8.20	8.42	6.85	7.36	7.00
Little Rock	7.29	9.90	6.08	7.66	6.86	6.94	7.11
Louisville	5.76	6.00	5.40	5.91	5.90	5.84	5.56
Memphis	7.49	9.15	7.18	7.31	7.05	8.20	6.37
Nashville	6.99	8.16	7.24	6.75	6.39	7.05	6.61
Cincinnati	6.49	6.62	5.95	6.39	5.97	6.27	8.61
Cleveland	6.14	6.50	5.82	6.08	6.14	5.83	6.55
Columbus	6.63	6.53	6.49	7.03	7.14	6.50	6.21
Toledo	7.14	7.16	6.42	10.34	6.00	5.51	6.41
Indianapolis	6.16	6.42	5.83	6.02	7.52	5.00	6.33
Chicago	5.91	6.13	5.64	5.73	5.81	5.79	6.34
Peoria	5.59	6.02	5.56	5.45	5.20	5.76	5.62
Detroit	5.76	5.98	6.14	6.35	4.77	5.47	6.32
Grand Rapids	6.99	6.75	6.41	6.89	7.01	7.60	7.23
Milwaukee	5.93	7.96	5.79	5.77	5.59	5.50	5.54
Minneapolis	5.95	7.18	5.61	6.59	5.53	5.55	5.66
St. Paul	6.20	7.43	6.61	5.86	5.63	5.72	6.10
Cedar Rapids	6.16	8.75	5.43	6.14	5.88	6.02	5.49
Des Moines	6.36	8.01	5.67	7.04	5.94	6.30	5.54
Dubuque	5.65	6.53	5.61	5.94	5.42	5.44	5.33
Sioux City	6.75	8.13	6.70	7.67	6.10	5.95	6.00
Kansas City, Mo	6.65	7.47	6.72	6.83	6.32	6.42	6.16
St. Joseph	6.65	7.49	6.71	6.73	6.33	6.34	6.36
St. Louis	5.68	6.31	5.76	5.99	5.58	5.11	5.58
Lincoln	6.21	6.93	5.33	6.69	5.90	6.38	6.29
Omaha	7.10	7.81	6.77	7.86	6.21	7.11	6.92
Kansas City, Kans	6.24	7.60	6.49	6.64	6.16	5.54	5.52
Topeka	6.11	7.36	6.53	6.89	3.99	6.38	6.60
Wichita	7.16	6.89	7.09	8.37	7.03	7.03	6.79
Helena	7.07	8.21	7.36	7.21	6.69	6.82	6.39
Denver	6.52	6.50	5.95	7.24	6.08	6.49	6.82
Pueblo	7.11	7.83	7.29	6.85	6.88	7.34	6.58
Muskogee	7.57	8.52	7.59	7.97	7.67	6.59	6.84
Oklahoma City	7.44	7.88	8.08	8.42	8.02	6.68	6.24
Tulsa	6.97	7.05	7.15	7.76	6.76	6.04	7.36
Seattle	6.88	7.09	7.01	6.78	6.59	6.73	7.12
Spokane	6.60	7.53	6.19	6.46	6.16	6.56	6.77
Portland	6.10	6.29	5.77	6.16	6.26	6.02	6.11
Los Angeles	6.14	6.28	5.75	6.46	5.82	6.24	6.31
Oakland	5.96	6.28	5.96	6.26	5.11	5.96	6.09
San Francisco	5.41	7.20	5.89	6.48	6.06	6.52	3.87
Ogden	7.23	8.64	6.89	7.07	7.37	7.34	5.93
Salt Lake City	6.70	8.77	6.43	6.38	6.13	6.35	6.47

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

I. Total Expenses Paid to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	3.73	3.90	3.94	3.52	3.63	3.70	3.70
Chicago (Central Reserve)	3.91	4.25	4.11	4.02	3.70	3.75	3.72
Boston	3.81	4.15	3.32	3.97	3.84	3.70	3.93
Albany	3.69	3.94	3.96	3.83	3.56	3.49	3.48
Brooklyn and Bronx	3.93	3.89	3.80	3.84	3.92	3.83	4.17
Buffalo	4.50	4.97	4.07	4.96	4.00	4.82	4.80
Philadelphia	3.75	3.82	3.67	3.78	3.76	3.67	3.83
Pittsburgh	4.28	4.49	4.09	4.10	4.34	4.34	4.34
Baltimore	3.98	4.04	3.67	4.04	3.71	4.25	4.21
Washington	4.21	4.21	4.12	4.54	4.10	4.09	4.24
Richmond	4.51	4.49	4.44	4.56	4.58	4.95	4.09
Atlanta	5.00	5.18	6.01	4.86	4.88	4.95	4.54
Jacksonville	5.00	5.21	4.97	4.98	3.88	5.60	5.45
Birmingham	4.54	4.80	3.60	5.13	4.46	4.33	4.91
New Orleans	5.22	5.72	5.01	5.84	4.80	4.77	5.31
Dallas	4.54	4.41	5.30	4.88	3.92	4.71	4.31
El Paso	5.88	6.44	6.39	6.93	5.15	5.09	5.11
Ft. Worth	5.13	6.19	4.66	5.67	5.14	4.48	5.11
Galveston	5.07	6.48	6.14	4.03	5.01	5.54	4.76
Houston	5.08	5.00	5.07	5.79	4.89	4.96	4.87
San Antonio	5.28	5.28	5.12	5.94	5.62	5.23	4.69
Waco	5.34	5.90	5.76	5.68	4.65	5.16	5.05
Little Rock	6.10	7.97	4.87	6.29	5.78	6.02	6.51
Louisville	3.93	4.06	3.58	4.06	4.06	4.02	3.83
Memphis	5.56	6.28	5.38	5.53	5.18	5.68	5.40
Nashville	4.84	5.19	4.39	4.86	4.53	5.28	4.83
Cincinnati	4.38	3.87	3.94	4.44	4.14	4.50	6.08
Cleveland	4.93	4.65	4.84	5.00	4.84	4.79	5.36
Columbus	4.76	4.50	4.42	5.30	5.05	4.68	4.64
Toledo	4.80	4.96	4.33	6.44	4.22	4.15	4.19
Indianapolis	3.90	4.22	4.02	4.06	3.95	3.35	3.87
Chicago	4.62	4.71	4.39	4.48	4.56	4.62	4.89
Peoria	3.51	3.56	3.47	3.31	3.40	3.67	3.64
Detroit	4.33	4.38	4.58	4.72	3.64	4.21	4.68
Grand Rapids	5.25	5.12	4.85	5.23	4.93	5.43	5.90
Milwaukee	4.12	5.12	4.04	3.85	4.11	3.87	3.97
Minneapolis	4.73	5.31	5.26	5.43	4.18	4.30	4.28
St. Paul	4.35	4.77	4.63	4.25	4.20	3.94	4.36
Cedar Rapids	4.92	6.50	4.26	5.06	4.82	5.04	4.34
Des Moines	4.99	5.50	4.25	6.59	4.80	4.60	4.44
Dubuque	4.44	5.10	3.95	4.81	4.41	4.26	4.32
Sioux City	5.64	6.43	5.50	6.62	5.14	5.10	5.12
Kansas City, Mo	5.07	5.68	5.06	5.20	4.88	4.81	4.83
St. Joseph	5.67	6.15	5.73	6.05	5.55	5.21	5.33
St. Louis	4.18	4.37	4.26	4.37	3.90	3.75	4.48
Lincoln	4.74	5.20	3.98	5.39	4.60	4.84	4.63
Omaha	5.32	5.80	5.18	6.13	4.77	4.91	5.21
Kansas City, Kans	4.62	5.22	4.80	5.04	4.58	4.31	4.06
Topeka	4.63	5.23	4.87	5.03	3.26	5.01	4.92
Wichita	5.53	5.12	5.64	6.86	5.42	5.50	4.93
Helena	5.14	5.55	5.40	5.12	5.23	4.80	4.86
Denver	4.78	4.85	4.82	4.78	4.67	4.78	4.80
Pueblo	4.77	4.48	4.24	4.49	4.90	5.29	5.09
Muskogee	5.57	6.33	5.75	6.03	5.61	4.75	4.68
Oklahoma City	5.51	5.87	6.10	6.20	5.70	5.24	4.49
Tulsa	5.35	5.90	5.51	6.48	5.51	4.61	4.81
Seattle	5.06	5.14	5.03	5.05	4.87	5.00	5.28
Spokane	5.06	5.28	4.60	5.18	4.95	4.95	5.37
Portland	4.53	4.65	4.22	4.50	4.69	4.66	4.43
Los Angeles	4.57	4.30	4.11	4.67	4.47	4.72	4.92
Oakland	4.20	4.39	4.07	4.21	3.59	4.29	4.57
San Francisco	3.79	4.66	4.01	4.58	4.39	4.87	2.75
Ogden	5.68	6.80	5.36	5.71	5.77	5.52	4.76
Salt Lake City	4.88	6.25	4.65	4.70	4.70	4.63	4.60

TABLE 221—(*Continued*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

J. Total Expenses Paid to Gross Earnings

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	63.42	61.38	63.19	63.87	64.84	63.98	63.38
Chicago (Central Reserve)	70.82	62.48	73.00	71.12	75.30	71.75	72.27
Boston	69.31	65.88	72.20	71.92	65.90	70.96	69.40
Albany	67.55	64.68	65.41	68.62	68.31	67.44	70.98
Brooklyn and Bronx	70.74	42.64	64.72	71.71	68.54	68.96	82.50
Buffalo	73.58	74.82	69.10	76.20	70.41	81.82	78.40
Philadelphia	65.27	60.50	64.75	65.52	69.77	63.65	67.36
Pittsburgh	69.66	66.96	64.91	71.74	69.04	73.02	71.63
Baltimore	65.74	62.80	62.74	63.81	69.12	67.71	68.14
Washington	68.82	68.17	70.16	70.43	67.84	66.61	70.40
Richmond	70.02	68.02	70.99	67.90	74.99	69.14	69.45
Atlanta	73.86	75.53	79.03	77.35	67.10	74.74	72.34
Jacksonville	75.17	76.48	73.77	75.24	71.78	74.32	78.70
Birmingham	66.98	70.90	53.43	73.32	68.44	63.25	71.70
New Orleans	66.19	71.56	66.09	65.48	64.36	63.38	66.57
Dallas	67.23	67.31	73.54	67.02	65.64	64.10	67.30
El Paso	80.15	80.55	85.48	82.59	80.03	74.94	74.87
Ft. Worth	72.79	74.04	70.62	71.95	77.64	71.05	66.57
Galveston	79.42	83.30	86.73	74.79	78.00	80.53	78.81
Houston	74.14	70.99	72.32	77.50	75.32	72.82	75.20
San Antonio	67.84	67.14	65.80	72.94	70.46	61.23	70.29
Waco	69.79	71.27	70.23	67.50	67.94	70.05	72.17
Little Rock	83.76	80.50	80.04	82.12	84.24	86.74	91.62
Louisville	68.24	67.59	66.32	68.73	68.75	68.86	68.93
Memphis	74.18	68.63	74.89	75.66	73.43	69.26	84.78
Nashville	69.30	63.66	60.63	72.05	70.91	74.93	73.15
Cincinnati	67.56	58.43	66.20	69.53	69.36	71.77	70.64
Cleveland	80.23	71.57	83.12	82.30	78.82	82.14	81.83
Columbus	71.76	68.92	68.09	75.35	70.70	72.10	74.67
Toledo	67.31	69.32	67.42	62.31	70.30	75.33	65.28
Indianapolis	63.32	65.76	68.97	67.48	52.54	67.04	61.21
Chicago	78.09	76.76	77.95	78.12	78.41	79.80	77.07
Peoria	62.79	59.22	62.34	60.83	65.37	63.60	64.74
Detroit	75.06	73.31	74.53	74.36	76.36	77.03	74.16
Grand Rapids	75.07	75.86	75.62	75.90	70.36	71.49	81.66
Milwaukee	69.40	64.33	69.74	66.74	73.56	70.36	71.66
Minneapolis	79.54	73.93	93.78	82.35	75.61	77.36	75.58
St. Paul	70.12	64.24	70.11	72.52	74.60	68.99	71.50
Cedar Rapids	79.84	74.27	78.35	82.45	81.97	83.80	78.93
Des Moines	78.41	68.65	74.99	93.68	80.84	72.83	70.16
Dubuque	78.52	78.14	70.43	80.88	81.45	78.28	81.03
Sioux City	83.59	79.09	82.08	86.28	84.31	85.79	85.29
Kansas City, Mo	76.34	76.07	75.29	76.20	88.24	74.98	78.38
St. Joseph	85.20	82.11	85.33	89.97	87.66	82.28	83.85
St. Louis	73.62	69.35	73.92	73.01	69.92	73.46	80.40
Lincoln	76.36	75.00	74.63	80.63	78.06	75.80	73.70
Omaha	74.99	74.19	76.60	77.98	76.80	69.00	75.18
Kansas City, Kans	74.02	68.66	73.90	75.94	74.29	77.86	73.58
Topeka	75.74	71.03	74.52	73.06	81.56	78.55	74.55
Wichita	77.24	74.22	79.54	81.95	77.05	78.22	72.62
Helena	72.70	67.64	73.30	71.05	78.15	70.34	76.04
Denver	73.28	74.58	80.92	65.98	76.85	73.62	70.43
Pueblo	67.13	57.22	58.16	65.54	71.30	72.01	77.28
Muskogee	73.54	74.29	75.73	75.70	73.15	72.00	68.39
Oklahoma City	74.10	74.48	75.53	73.58	71.06	78.52	71.93
Tulsa	76.82	83.72	77.08	83.51	81.52	76.22	65.38
Seattle	73.53	72.54	71.71	74.50	73.91	74.24	74.11
Spokane	76.66	70.13	74.35	80.15	80.38	75.43	79.31
Portland	74.28	73.97	73.19	73.05	74.84	77.38	72.56
Los Angeles	74.42	68.38	71.45	72.28	76.74	75.60	78.01
Oakland	70.47	69.81	68.36	67.15	70.32	71.87	75.15
San Francisco	70.09	64.74	68.07	70.61	72.47	74.64	71.03
Ogden	78.54	78.72	77.80	80.73	78.33	75.17	80.28
Salt Lake City	72.92	71.28	72.29	73.67	76.69	72.93	71.10

TABLE 221—(*Continued*)

Ratios for National Banks, by Cities, 1922–1927

K. Net Earnings, during the year, to Earning Assets

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	2.15	2.46	2.29	1.99	1.97	2.09	2.13
Chicago (Central Reserve)	1.61	2.56	1.52	1.63	1.21	1.47	1.42
Boston	1.68	2.15	1.28	1.55	1.99	1.51	1.74
Albany	1.77	2.15	2.09	1.75	1.65	1.69	1.42
Brooklyn and Bronx	1.63	2.32	2.07	1.51	1.80	1.73	0.88
Buffalo	1.62	1.67	1.83	1.55	1.68	1.08	1.32
Philadelphia	2.00	2.49	2.00	1.99	1.63	2.09	1.85
Pittsburgh	1.87	2.21	2.21	1.61	1.95	1.61	1.72
Baltimore	2.08	2.40	2.18	2.29	1.66	2.03	1.97
Washington	1.91	1.97	1.75	1.90	1.94	2.10	1.79
Richmond	1.94	2.10	1.81	2.15	1.53	2.20	1.80
Atlanta	1.77	1.68	1.59	1.42	2.39	1.68	1.74
Jacksonville	1.66	1.60	1.77	1.64	1.53	1.93	1.47
Birmingham	2.24	1.97	3.14	1.87	2.05	2.51	1.93
New Orleans	2.66	2.28	2.57	3.08	2.66	2.75	2.67
Dallas	2.22	2.14	1.91	2.40	2.05	2.64	2.09
El Paso	1.46	1.56	1.09	1.46	1.28	1.71	1.72
Ft. Worth	1.92	2.17	1.94	2.21	1.48	1.83	2.01
Galveston	1.31	1.30	0.94	1.36	1.42	1.34	1.28
Houston	1.77	2.04	1.94	1.68	1.60	1.85	1.61
San Antonio	2.50	2.59	2.66	2.20	2.36	3.31	1.98
Waco	2.30	2.38	2.44	2.74	2.20	2.20	1.95
Little Rock	1.19	1.93	1.21	1.37	1.08	0.92	0.60
Louisville	1.83	1.94	1.82	1.85	1.84	1.82	1.73
Memphis	1.93	2.87	1.80	1.78	1.87	2.52	0.97
Nashville	2.15	2.97	2.85	1.89	1.86	1.77	1.78
Cincinnati	2.11	2.75	2.01	1.95	1.83	1.77	2.53
Cleveland	1.21	1.85	0.98	1.08	1.30	1.04	1.19
Columbus	1.87	2.03	2.07	1.73	2.09	1.82	1.57
Toledo	2.34	2.20	2.09	3.90	1.78	1.36	2.22
Indianapolis	2.26	2.20	1.81	1.96	3.57	1.65	2.46
Chicago	1.29	1.42	1.25	1.25	1.25	1.17	1.45
Peoria	2.08	2.46	2.09	2.14	1.80	2.09	1.98
Detroit	1.43	1.60	1.56	1.63	1.13	1.26	1.64
Grand Rapids	1.74	1.63	1.56	1.66	2.08	2.17	1.33
Milwaukee	1.81	2.84	1.75	1.92	1.48	1.63	1.57
Minneapolis	1.22	1.87	0.35	1.16	1.35	1.25	1.38
St. Paul	1.85	2.66	1.98	1.61	1.43	1.78	1.74
Cedar Rapids	1.24	2.25	1.17	1.08	1.06	0.98	1.15
Des Moines	1.37	2.51	1.42	0.45	1.14	1.70	1.10
Dubuque	1.21	1.43	1.66	1.13	1.01	1.18	1.01
Sioux City	1.11	1.70	1.20	1.05	0.96	0.85	0.88
Kansas City, Mo	1.58	1.79	1.66	1.63	1.44	1.61	1.33
St. Joseph	0.98	1.34	0.98	0.68	0.78	1.13	1.03
St. Louis	1.50	1.94	1.50	1.62	1.68	1.36	1.10
Lincoln	1.47	1.73	1.35	1.30	1.30	1.54	1.66
Omaha	1.78	2.01	1.59	1.73	1.44	2.20	1.71
Kansas City, Kans	1.62	2.38	1.69	1.60	1.58	1.23	1.46
Topeka	1.48	2.13	1.66	1.86	0.73	1.37	1.68
Wichita	1.63	1.77	1.45	1.51	1.61	1.53	1.86
Helena	1.93	2.66	1.96	2.09	1.46	2.02	1.53
Denver	1.74	1.65	1.13	2.46	1.41	1.71	2.02
Pueblo	2.34	3.35	3.05	2.36	1.98	2.05	1.49
Muskogee	2.00	2.19	1.84	1.94	2.06	1.84	2.16
Oklahoma City	1.93	2.01	1.98	2.22	2.32	1.44	1.75
Tulsa	1.62	1.15	1.64	1.28	1.25	1.43	2.55
Seattle	1.82	1.95	1.98	1.73	1.72	1.73	1.84
Spokane	1.54	2.25	1.59	1.28	1.21	1.61	1.40
Portland	1.57	1.64	1.55	1.66	1.57	1.36	1.68
Los Angeles	1.57	1.98	1.64	1.79	1.35	1.52	1.39
Oakland	1.76	1.89	1.89	2.05	1.52	1.67	1.52
San Francisco	1.62	2.54	1.88	1.90	1.67	1.65	1.12
Ogden	1.55	1.84	1.53	1.36	1.60	1.82	1.17
Salt Lake City	1.82	2.52	1.78	1.68	1.43	1.72	1.87

TABLE 221—(*Concluded*)

RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

L. Net Earnings, during the year, to Gross Earnings

Cities	All Years	1922	1923	1924	1925	1926	1927
New York	36.58	38.62	36.81	36.13	35.16	36.02	36.62
Chicago (Central Reserve)	29.18	37.52	27.00	28.88	24.70	28.25	27.73
Boston	30.69	34.12	27.80	28.08	34.10	29.04	30.60
Albany	32.45	35.32	34.59	31.38	31.69	32.56	29.02
Brooklyn and Bronx	29.26	37.36	35.28	28.29	31.46	31.04	17.50
Buffalo	26.42	25.18	30.90	23.80	29.59	18.19	21.60
Philadelphia	34.73	39.50	35.25	34.48	30.23	36.35	32.64
Pittsburgh	30.34	33.03	35.09	28.26	30.96	26.98	28.37
Baltimore	34.26	37.20	37.26	36.19	30.88	22.29	31.86
Washington	31.18	31.83	29.84	29.57	32.16	33.89	29.60
Richmond	29.98	31.98	29.01	32.10	25.01	30.86	30.55
Atlanta	26.14	24.47	20.97	22.65	32.90	25.26	27.66
Jacksonville	24.83	23.52	26.23	24.76	28.22	25.68	21.30
Birmingham	33.02	29.10	46.57	26.68	31.56	36.75	28.30
New Orleans	33.81	28.44	33.91	34.52	35.64	36.62	33.43
Dallas	32.77	32.69	26.46	32.98	34.36	35.90	32.70
El Paso	19.85	19.45	14.52	17.41	19.97	25.06	25.13
Ft. Worth	27.21	25.96	29.38	28.05	22.36	28.95	33.43
Galveston	20.58	16.70	13.27	25.20	22.00	19.47	21.19
Houston	25.86	29.01	27.68	22.50	24.68	27.18	24.80
San Antonio	32.36	32.86	34.20	27.06	29.54	38.77	29.71
Waco	30.21	28.73	29.77	32.50	32.06	29.95	27.83
Little Rock	16.24	19.50	19.95	17.88	15.76	13.26	8.38
Louisville	31.76	32.41	33.67	31.27	31.25	31.14	31.07
Memphis	25.82	31.37	25.11	24.34	26.57	30.74	15.22
Nashville	30.70	36.34	39.37	27.95	29.09	25.07	26.84
Cincinnati	32.44	41.57	33.80	30.47	30.64	28.23	29.36
Cleveland	19.77	28.43	16.88	17.70	21.18	17.86	18.17
Columbus	28.24	31.08	31.91	24.65	29.30	27.90	25.33
Toledo	32.69	30.68	32.58	37.69	29.70	24.67	34.72
Indianapolis	36.68	34.24	31.03	32.52	47.46	32.96	38.79
Chicago	21.91	23.24	22.05	21.88	21.59	20.20	22.93
Peoria	37.21	40.78	37.66	39.16	34.63	36.40	35.26
Detroit	24.94	26.69	25.47	25.64	23.64	22.97	25.84
Grand Rapids	24.93	24.14	24.38	24.10	29.64	28.51	18.34
Milwaukee	30.60	35.67	30.26	33.26	26.44	29.64	28.34
Minneapolis	20.46	26.07	6.22	17.65	24.39	22.64	24.42
St. Paul	29.88	35.76	29.89	27.48	25.40	31.01	28.50
Cedar Rapids	20.16	25.73	21.65	17.55	18.03	16.20	21.07
Des Moines	21.59	31.36	25.01	6.32	19.16	27.17	19.84
Dubuque	21.48	21.86	29.57	19.12	18.55	21.72	18.97
Sioux City	16.41	20.91	17.92	13.72	15.69	14.21	14.71
Kansas City, Mo	23.66	23.93	24.71	23.80	22.76	25.02	21.62
St. Joseph	14.80	17.89	14.67	10.03	12.34	17.72	16.15
St. Louis	26.38	30.65	26.08	26.99	30.08	26.54	19.60
Lincoln	23.64	25.00	25.37	19.37	21.94	24.20	26.30
Omaha	25.01	25.81	23.40	22.02	23.20	31.00	24.82
Kansas City, Kans	25.98	31.34	26.10	24.06	25.71	22.14	26.42
Topeka	24.26	28.97	25.48	26.94	18.44	21.45	25.45
Wichita	22.76	25.78	20.46	18.05	22.95	21.78	27.38
Helena	27.30	32.36	26.70	28.95	21.85	29.66	23.96
Denver	26.72	25.42	19.08	34.02	23.15	26.38	29.57
Pueblo	32.87	42.78	41.84	34.46	28.70	27.99	22.72
Muskogee	26.46	25.71	24.27	24.30	26.85	28.00	31.61
Oklahoma City	25.90	25.52	24.47	26.42	28.94	21.48	28.07
Tulsa	23.18	16.28	22.92	16.49	18.48	23.78	34.62
Seattle	26.47	27.46	28.29	25.50	26.09	25.76	25.89
Spokane	23.34	29.87	25.65	19.85	19.62	24.57	20.69
Portland	25.72	26.03	26.81	26.95	25.16	22.62	27.44
Los Angeles	25.58	31.62	28.55	27.72	23.26	24.40	21.99
Oakland	29.52	30.19	31.64	32.85	29.68	28.13	24.85
San Francisco	29.91	35.26	31.93	29.39	27.53	25.36	28.97
Ogden	21.46	21.28	22.20	19.27	21.67	24.83	19.72
Salt Lake City	27.08	28.72	27.71	26.33	23.31	27.07	28.90

TABLE 222

Percentage Differences of Ratios from the Respective City Averages for National Banks, by Cities, 1922–1927

A. Total Loans and Discounts to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+ 1.53	— 0.58	— 0.69	— 2.77	+ 1.17	+ 1.13
Chicago (Central Reserve)	+ 2.99	— 1.56	— 2.05	+ 0.95	+ 0.89	— 0.80
Boston	+ 1.12	+ 2.77	+ 0.08	+ 3.58	— 3.19	— 3.07
Albany	— 1.38	— 1.13	— 1.25	+ 0.75	— 1.31	+ 3.92
Brooklyn and Bronx	+ 5.24	+ 7.71	+ 2.54	— 4.05	— 4.75	— 1.87
Buffalo	+ 8.67	+ 2.17	— 2.91	— 3.06	—10.25	— 0.65
Philadelphia	— 2.54	— 1.65	+ 1.29	— 0.63	+ 3.05	— 0.08
Pittsburgh	+11.42	+ 7.92	+ 1.02	— 6.57	— 3.16	— 6.50
Baltimore	+ 4.05	+ 2.54	+ 9.39	— 5.49	— 2.48	— 6.26
Washington	— 6.48	— 3.70	— 0.65	+ 0.17	+ 2.86	+ 5.12
Richmond	— 1.26	— 3.38	+ 2.20	+ 3.53	— 0.15	— 1.05
Atlanta	+ 1.48	+ 7.92	+12.69	— 0.79	— 5.25	— 9.96
Jacksonville	+ 7.10	— 0.05	— 1.50	+ 8.22	+ 1.16	—11.44
Birmingham	+ 0.66	— 3.86	— 0.88	+ 1.01	+ 0.56	+ 1.78
New Orleans	— 0.43	— 5.89	+ 1.73	— 0.94	+ 2.79	+ 2.35
Dallas	— 1.76	— 7.58	— 1.26	+ 2.75	+ 4.85	— 1.14
El Paso	+ 3.59	+ 5.39	+ 7.75	— 2.72	— 5.90	— 9.80
Fort Worth	+ 3.24	+ 0.63	+ 7.31	— 0.96	— 3.53	— 3.33
Galveston	+11.09	+ 9.07	— 4.55	+ 5.04	— 3.70	— 4.03
Houston	+ 0.28	— 4.41	+ 3.51	+ 1.61	+ 0.76	— 1.68
San Antonio	— 0.05	— 1.30	+ 2.11	+ 4.02	— 3.97	— 0.35
Waco	+ 5.81	+ 1.84	+ 3.39	— 1.08	+ 1.86	—10.43
Little Rock	— 6.45	— 9.40	+ 1.96	+ 3.75	+ 4.92	+ 6.30
Louisville	—10.68	— 1.36	+ 6.76	+ 5.78	+ 6.97	— 7.93
Memphis	— 6.38	— 4.84	+ 0.88	+ 2.49	+ 8.12	+ 0.60
Nashville	— 9.21	— 6.07	— 3.83	+ 3.40	+ 7.02	+ 5.70
Cincinnati	— 2.25	+ 4.71	+ 1.75	— 1.02	+ 3.87	—12.19
Cleveland	+ 7.56	— 0.79	— 4.23	— 2.91	+ 0.12	+ 2.13
Columbus	— 6.76	— 0.27	+ 3.11	+ 3.40	+ 3.00	— 2.84
Toledo	+ 2.02	+ 7.65	+ 9.29	—19.72	—14.73	— 9.81
Indianapolis	— 2.58	— 7.93	— 1.78	+ 0.15	+ 7.15	+ 3.70
Chicago	— 1.09	— 2.84	— 2.92	— 4.48	+ 2.63	+ 6.12
Peoria	+ 7.53	+ 4.02	+ 5.75	— 7.65	— 5.23	— 2.13
Detroit	— 2.97	— 1.78	+ 1.50	— 3.39	+ 2.84	+ 0.80
Grand Rapids	— 5.55	— 2.36	— 2.89	— 7.48	+ 6.25	+10.43
Milwaukee	+ 5.81	+ 4.46	+ 1.65	— 0.18	— 4.73	— 4.23
Minneapolis	+15.10	+ 4.11	+ 4.02	— 0.53	— 5.87	—10.64
St. Paul	+ 1.49	+ 2.21	+ 9.44	— 7.26	— 4.07	— 0.62
Cedar Rapids	+16.31	+ 1.54	— 4.40	— 7.00	— 3.91	+ 0.91
Des Moines	+11.84	— 4.18	+10.91	— 7.48	— 0.01	— 8.24
Dubuque	+ 3.05	+ 1.98	+ 9.94	— 0.69	— 9.28	— 2.19
Sioux City	+ 4.24	+ 1.80	+ 7.21	— 1.16	— 6.87	— 5.06
Kansas City, Mo.	+ 5.77	+ 5.31	+ 4.96	— 1.65	— 4.91	— 8.82
St. Joseph	— 2.21	— 5.03	+ 2.17	+ 1.90	— 0.60	— 0.98
St. Louis	+ 5.35	— 3.78	— 2.22	— 1.01	+ 1.83	— 0.03
Lincoln	+13.40	— 1.72	— 0.99	— 4.04	— 1.54	— 1.19
Omaha	+ 2.85	— 0.29	+ 4.62	— 1.45	+ 0.84	— 6.70
Kansas City, Kansas	+ 5.07	+ 7.90	+ 4.42	— 6.01	— 5.01	— 3.38
Topeka	+11.03	+ 7.01	+ 8.17	+ 3.56	— 4.98	—12.83
Wichita	+ 3.62	— 9.78	+ 0.59	— 8.34	+ 2.66	— 7.30
Helena	+24.85	— 0.38	— 2.14	— 3.91	— 3.67	— 9.86
Denver	+ 8.15	+ 5.77	+ 2.21	— 1.13	— 5.96	— 6.32
Pueblo	— 3.81	+ 4.34	+ 0.87	— 5.98	+ 3.29	+ 0.87
Muskogee	+14.22	+11.94	+10.94	+ 3.79	—15.50	—33.38
Oklahoma City	+ 1.66	+ 3.42	+ 3.77	+ 5.88	— 7.67	— 4.02
Tulsa	+ 5.62	+ 3.56	+ 6.54	+ 0.13	— 2.65	— 7.53
Seattle	+ 1.47	+ 0.77	+ 2.84	— 3.31	+ 0.10	— 1.18
Spokane	+ 2.58	+ 5.21	+ 2.95	— 1.42	— 2.36	— 5.85
Portland	+15.76	+ 8.67	+ 4.44	—10.33	— 3.18	— 9.06
Los Angeles	+ 3.50	+ 1.08	— 0.95	— 1.82	— 0.31	— 0.10
Oakland	— 0.65	+ 1.58	— 0.48	+ 1.09	+ 2.55	— 3.76
San Francisco	+ 1.87	+ 2.57	+ 4.08	+ 1.06	+ 3.55	— 3.90
Ogden	+ 1.44	+ 1.74	— 2.19	— 0.07	+ 1.24	— 1.95
Salt Lake City	+ 5.97	+ 1.88	— 0.30	— 4.30	— 2.32	+ 0.41

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

B. Total Investments to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	— 3.68	+ 1.40	+ 1.67	+ 6.68	— 2.83	— 2.73
Chicago (Central Reserve)	—15.70	+ 8.19	+10.76	— 5.00	— 4.69	+ 4.19
Boston	— 4.53	—11.18	— 0.30	—14.45	+12.89	+12.39
Albany	+ 2.93	+ 2.40	+ 2.65	— 1.59	+ 2.78	— 8.30
Brooklyn and Bronx	—14.24	—20.98	— 6.92	+11.01	+12.91	+ 5.10
Buffalo	—17.80	— 4.46	+ 5.98	+ 6.29	+21.04	+ 1.34
Philadelphia	+ 8.75	+ 5.68	— 4.44	+ 2.18	—10.48	+ 0.27
Pittsburgh	—12.77	— 8.85	— 1.14	+ 7.35	+ 3.54	+ 7.26
Baltimore	—10.87	— 6.82	—25.20	+14.74	+ 6.67	+16.80
Washington	+15.51	+ 8.86	+ 1.56	— 0.41	— 6.87	—12.26
Richmond	+ 8.15	+21.92	—14.29	—22.89	+ 0.97	+ 6.81
Atlanta	— 6.91	—36.94	—59.21	+ 3.68	+24.48	+46.46
Jacksonville	—13.90	+ 0.09	+ 2.93	—16.09	— 2.28	+22.39
Birmingham	— 2.72	+15.96	+ 3.59	— 4.16	— 2.31	— 7.34
New Orleans	+ 1.91	+26.18	— 7.68	+ 4.19	—12.41	—10.45
Dallas	+ 5.61	+24.16	+ 4.02	— 8.75	—19.64	+ 3.64
El Paso	—14.52	—21.77	—31.30	+10.99	+23.84	+39.60
Fort Worth	—12.20	— 2.38	—27.55	+ 3.62	+13.30	+12.54
Galveston	—30.71	—25.13	+12.58	—13.94	+10.25	+11.15
Houston	— 1.03	+16.29	—12.96	— 5.96	— 2.82	+ 6.48
San Antonio	+ 0.19	+ 4.94	— 8.02	—15.27	+15.07	+ 1.34
Waco	—22.37	— 7.08	—13.05	+ 4.17	— 7.18	+40.18
Little Rock	+53.58	+78.05	—16.28	—31.16	—40.84	—52.28
Louisville	+26.53	+ 3.39	—16.81	—14.37	—17.33	+19.70
Memphis	+32.09	+24.36	— 4.40	—12.54	—40.83	— 3.02
Nashville	+45.08	+29.70	+18.74	—16.62	—34.36	—27.87
Cincinnati	+ 4.50	— 9.43	— 3.51	+ 2.04	— 7.75	+24.40
Cleveland	—16.08	+ 1.69	+ 9.01	+ 6.19	— 0.25	— 4.54
Columbus	+17.16	+ 0.67	— 7.89	— 8.63	— 7.61	+ 7.22
Toledo	— 3.42	—12.96	—15.73	+33.40	+24.95	+16.62
Indianapolis	+ 7.37	+22.70	+ 5.10	— 0.43	—20.46	—10.58
Chicago	+ 1.03	+ 2.69	+ 2.77	+ 4.25	— 2.49	— 5.80
Peoria	—15.41	— 8.22	—11.76	+15.65	+10.69	+ 4.36
Detroit	+10.88	+ 6.54	— 5.51	+10.55	—15.08	— 2.94
Grand Rapids	+19.27	+ 8.18	+10.01	+25.97	—26.15	—36.21
Milwaukee	—28.90	—22.15	— 8.18	+ 0.90	+23.52	+21.01
Minneapolis	—42.95	—11.69	—11.42	+ 1.50	+16.80	+30.03
St. Paul	— 2.95	— 4.38	—18.67	+14.35	+ 8.04	+ 1.22
Cedar Rapids	—36.80	— 3.49	+ 9.94	+15.80	+ 8.83	— 2.05
Des Moines	—36.38	+12.83	—33.52	+22.97	+ 0.04	+25.34
Dubuque	— 3.37	— 2.19	—10.99	+ 0.76	+10.25	+ 2.42
Sioux City	—13.95	— 5.93	—23.74	+ 3.82	+22.63	+16.66
Kansas City, Mo.	—22.00	—20.27	—18.92	+ 6.31	+18.73	+33.65
St. Joseph	+12.97	+ 2.95	—12.70	—11.12	+ 3.50	+ 5.77
St. Louis	—16.38	+11.59	+ 6.79	+ 3.09	— 5.61	+ 0.08
Lincoln	—52.92	+ 6.78	+ 3.91	+15.94	+ 6.09	+ 4.70
Omaha	—13.06	+ 1.34	—21.15	+ 6.64	— 3.85	+30.69
Kansas City, Kansas	—15.30	—23.80	—13.33	+18.10	+15.10	+10.20
Topeka	—14.15	— 9.00	—10.48	— 4.57	+ 6.39	+16.46
Wichita	— 9.61	—25.93	— 1.57	+22.13	—28.96	+19.36
Helena	—54.94	+ 0.84	+ 4.72	+ 8.64	+ 8.13	+21.80
Denver	—13.06	— 9.23	— 3.54	+ 1.82	+ 9.55	+10.12
Pueblo	+ 4.13	— 4.71	— 0.94	+ 6.48	— 3.56	— 0.94
Muskogee	—30.73	—25.80	—23.65	— 8.19	+33.51	+72.15
Oklahoma City	— 3.27	— 6.75	— 7.44	—11.60	+15.14	+ 7.94
Tulsa	—27.38	—17.33	—31.90	— 0.65	+12.93	+36.72
Seattle	— 2.20	— 1.29	— 4.77	+ 5.55	— 0.16	+ 1.98
Spokane	—11.55	—23.33	—13.20	+ 6.35	+10.57	+26.18
Portland	—26.40	—14.53	— 7.44	+17.31	+ 5.32	+15.17
Los Angeles	—13.72	— 4.23	+ 3.74	+ 7.13	+ 1.30	+ 0.39
Oakland	+ 1.71	— 4.19	+ 1.28	— 2.88	— 6.75	+ 9.96
San Francisco	— 5.40	— 7.42	—11.78	— 3.07	—10.26	+11.27
Ogden	— 4.07	— 4.96	+ 6.23	+ 0.19	— 3.54	+ 5.53
Salt Lake City	—16.99	— 5.34	+ 0.85	+12.23	+ 6.61	— 1.15

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

C. Total Deposits to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+ 0.91	— 8.08	— 2.55	+ 2.73	+ 2.18	+ 3,30
Chicago (Central Reserve)	— 7.34	— 5.17	— 1.27	+ 4.70	+ 0.32	+ 6.38
Boston	— 4.85	— 6.23	+ 1.10	+ 5.17	+ 2.44	+ 0.48
Albany	— 2.29	— 5.13	— 1.73	— 0.54	+ 0.30	+ 8.02
Brooklyn and Bronx	— 2.85	+ 0.48	+ 1.73	+ 2.55	— 0.29	— 1.36
Buffalo	+ 2.13	— 2.60	+ 3.90	+ 6.04	—14.10	—13.63
Philadelphia	— 5.84	— 4.60	+ 0.09	+ 3.98	+ 2.82	+ 2.07
Pittsburgh	— 3.46	— 4.45	— 2.25	+ 2.41	+ 3.68	+ 2.38
Baltimore	— 0.93	— 8.10	+ 0.57	+ 3.14	+ 3.41	+ 1.97
Washington	— 1.12	— 7.68	+ 0.16	+ 0.44	+ 3.90	+ 2.55
Richmond	— 6.46	— 6.97	+ 1.32	+ 1.49	+ 5.21	+ 7.29
Atlanta	— 4.07	— 4.66	+ 4.45	+ 3.17	+ 0.65	— 1.26
Jacksonville	+ 1.63	— 3.66	+ 2.25	— 7.07	+ 9.92	— 2.20
Birmingham	— 6.20	+ 1.66	+ 6.31	— 1.63	— 3.18	— 0.37
New Orleans	+ 1.46	— 2.64	+12.85	+ 1.57	— 8.30	— 2.12
Dallas	+ 5.23	+ 4.34	+ 0.33	+ 0.67	+ 0.76	— 7.60
El Paso	— 8.72	— 9.37	+11.86	+ 7.09	+ 2.95	+ 1.20
Fort Worth	+ 5.51	— 2.38	— 4.09	— 0.59	+ 0.15	+ 1.77
Galveston	+ 8.15	+ 7.74	+ 5.13	—10.74	+ 2.98	— 0.14
Houston	— 3.70	— 6.90	— 1.29	+ 1.82	+ 5.34	+ 2.18
San Antonio	—11.59	—12.85	— 2.41	+ 8.68	+ 7.29	+ 5.83
Waco	— 4.53	— 4.50	— 2.27	+ 0.95	+ 1.54	+ 7.33
Little Rock	— 2.65	—12.39	+14.47	+ 6.57	— 9.73	+ 7.37
Louisville	— 7.91	—15.23	+ 4.44	+ 7.91	+ 5.88	+ 3.53
Memphis	+ 1.30	— 7.28	— 4.66	— 2.94	+ 5.91	+ 8.36
Nashville	+ 1.29	— 3.46	— 6.11	— 2.45	— 0.57	+10.28
Cincinnati	— 8.16	—10.40	+ 3.67	+ 1.16	+ 3.71	+16.93
Cleveland	— 7.32	— 3.03	— 1.04	— 0.04	+ 4.44	+ 3.93
Columbus	+ 3.30	— 7.84	+ 0.54	+ 2.34	+ 0.02	+ 1.65
Toledo	+ 1.23	— 7.69	+ 8.12	+ 1.98	— 5.64	+ 8.87
Indianapolis	— 3.95	— 9.80	— 0.68	+ 1.08	+ 2.29	+10.03
Chicago	— 1.96	— 0.80	+ 0.83	+ 3.21	+ 1.62	— 3.47
Peoria	— 2.32	— 5.06	+ 0.34	— 2.91	+ 3.58	+ 5.13
Detroit	+ 3.04	— 2.09	+ 5.25	— 1.21	— 1.77	— 1.09
Grand Rapids	— 9.32	— 4.59	— 2.09	+ 3.86	+ 9.52	+ 1.56
Milwaukee	— 1.36	— 7.90	+ 3.83	+ 4.66	+ 0.46	— 0.96
Minneapolis	—11.57	— 3.30	+ 5.85	+ 2.58	+ 0.19	+ 3.21
St. Paul	— 5.42	—10.88	+ 4.84	— 1.34	+ 1.56	+ 9.53
Cedar Rapids	— 0.91	—18.96	— 0.18	— 2.86	+ 0.59	+19.06
Des Moines	— 3.11	—15.07	+ 0.63	— 5.19	+ 7.97	+16.31
Dubuque	—12.52	— 0.80	+ 5.92	— 2.09	— 0.62	+ 5.50
Sioux City	— 5.72	— 7.73	+ 4.46	— 1.26	+ 2.24	+ 9.38
Kansas City, Mo.	— 5.50	— 8.06	+ 1.15	+ 1.68	+ 2.00	+ 8.76
St. Joseph	— 3.55	— 7.37	+ 1.32	— 1.91	+ 0.13	+12.35
St. Louis	— 4.48	— 7.93	— 1.03	+ 4.81	+ 5.14	+ 0.76
Lincoln	— 6.33	— 3.53	+ 6.87	— 5.91	+ 3.70	+ 4.73
Omaha	— 0.91	—12.77	+ 5.51	+ 4.21	+ 2.31	+ 4.09
Kansas City, Kansas	+ 7.45	— 6.37	— 0.08	— 6.46	+ 2.10	+ 3.53
Topeka	— 0.98	— 7.90	—10.10	+ 1.65	+ 3.51	+ 5.60
Wichita	— 9.30	— 6.11	+ 7.65	+ 6.69	— 0.07	+ 1.91
Helena	—10.27	+ 0.39	— 2.40	+ 2.71	+ 2.31	+ 4.94
Denver	— 2.11	— 4.73	+ 2.32	— 1.25	+ 2.86	+ 1.94
Pueblo	—14.55	+ 0.61	+ 7.65	+ 7.91	—10.25	+ 6.72
Muskogee	+ 0.37	— 2.61	— 2.60	— 6.60	+ 3.49	+10.01
Oklahoma City	+ 0.14	— 3.44	+ 6.39	— 2.55	+ 2.53	— 1.95
Tulsa	+12.68	— 7.76	— 1.35	+ 0.27	+ 0.35	— 1.81
Seattle	+ 3.88	+ 0.14	+ 2.02	— 3.22	— 2.52	+ 0.52
Spokane	— 0.17	— 3.74	— 0.92	+ 0.26	+ 1.62	+ 2.49
Portland	— 5.39	— 2.65	— 1.27	+ 3.78	+ 1.94	+ 1.60
Los Angeles	— 4.54	— 0.73	— 0.53	— 1.16	+ 1.20	+ 3.07
Oakland	— 1.64	— 1.75	— 0.85	+ 4.17	— 3.93	+ 3.97
San Francisco	— 8.00	—16.47	— 0.91	— 1.25	— 3.68	+10.28
Ogden	— 7.40	+ 5.39	+ 4.78	+ 2.70	— 4.69	— 0.06
Salt Lake City	— 5.41	— 2.39	+ 5.30	— 1.16	+ 3.07	— 0.38

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

D. Total Demand Deposits to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+ 2.49	— 7.87	— 1.03	+ 2.72	+ 2.47	+ 0.04
Chicago (Central Reserve)	— 2.61	— 1.80	+ 1.11	+ 3.38	— 2.32	+ 1.61
Boston	+ 8.66	— 0.07	+ 3.91	+ 3.06	— 2.10	— 9.14
Albany	— 2.11	— 5.08	— 0.31	— 3.03	— 1.44	+11.20
Brooklyn and Bronx	+ 7.35	+ 8.04	+ 5.69	+ 3.18	— 5.61	— 9.34
Buffalo	+39.86	+ 3.24	+ 2.11	+ 4.90	—65.62	—63.80
Philadelphia	+ 4.80	+ 2.52	+ 2.76	+ 2.91	— 3.76	— 7.18
Pittsburgh	+ 5.18	+ 3.07	— 3.02	— 0.33	— 0.17	— 3.19
Baltimore	+ 9.39	— 2.01	+ 3.50	— 4.10	+ 1.41	— 6.70
Washington	+ 3.89	— 7.88	— 0.25	— 1.46	+ 5.89	— 0.61
Richmond	— 4.05	— 8.64	+ 1.95	+ 0.42	+ 6.96	+ 5.12
Atlanta	+ 0.76	— 5.98	+ 5.10	+ 6.59	+ 1.03	— 7.63
Jacksonville	— 0.44	—12.83	— 0.57	— 2.28	+23.14	—13.31
Birmingham	—10.00	+ 1.68	+ 0.65	+ 0.20	+ 0.33	+ 4.43
New Orleans	+ 9.08	— 1.37	+10.37	— 0.39	— 9.76	— 4.74
Dallas	+12.41	+ 4.32	— 2.45	— 1.55	+ 1.08	— 8.44
El Paso	—14.11	—12.54	+ 6.65	+12.66	+ 6.34	+ 7.76
Fort Worth	+ 7.28	— 0.57	— 7.40	— 0.72	+ 1.21	+ 0.70
Galveston	+21.57	+14.42	— 2.84	—17.93	+ 7.55	+ 1.17
Houston	+ 1.27	— 5.57	— 2.38	+ 2.29	+ 3.57	— 0.21
San Antonio	— 0.03	—10.43	+ 0.06	+ 7.56	+ 3.13	— 0.88
Waco	+ 8.57	+ 1.45	— 2.31	+ 1.79	— 4.55	— 3.56
Little Rock	—11.52	— 5.28	+23.03	+ 5.46	—11.44	— 2.23
Louisville	— 4.03	—12.75	+ 2.25	+ 6.40	+11.18	— 3.22
Memphis	+13.32	+ 0.56	— 2.84	— 9.30	+ 2.10	— 2.86
Nashville	+13.95	+ 4.12	— 1.04	— 2.95	— 7.03	— 3.63
Cincinnati	+ 0.80	— 5.27	+ 5.21	— 4.30	— 0.60	+ 8.37
Cleveland	+15.21	+ 7.45	+ 5.76	—11.07	— 4.90	— 6.96
Columbus	+11.53	— 1.52	+ 0.52	— 4.17	— 4.06	— 0.67
Toledo	+21.30	+ 9.59	— 0.81	—12.32	—36.57	—32.02
Indianapolis	+ 0.18	— 4.61	+ 2.60	+ 3.34	— 1.56	+ 0.56
Chicago	— 5.58	— 6.75	— 3.35	+ 7.25	+ 8.51	— 4.19
Peoria	— 5.25	— 4.96	+ 2.90	— 5.27	+ 5.07	+ 5.89
Detroit	+12.22	+ 5.74	+12.62	— 6.50	— 7.00	— 6.75
Grand Rapids	—10.70	— 3.92	— 4.66	+ 6.84	+12.08	— 1.06
Milwaukee	— 2.51	— 8.42	+ 4.35	+ 6.13	+ 1.93	— 3.10
Minneapolis	+ 4.75	+ 0.11	+ 4.92	+ 3.44	— 3.81	— 6.80
St. Paul	— 7.37	— 2.89	+17.59	— 0.59	— 3.22	— 3.07
Cedar Rapids	+ 6.11	—15.97	— 1.29	— 8.29	+ 3.70	+14.85
Des Moines	— 2.07	—14.53	— 2.02	— 6.95	+ 7.72	+19.50
Dubuque	+11.75	— 3.11	+ 9.51	— 3.98	— 6.98	— 2.08
Sioux City	— 0.68	—11.56	+ 1.67	— 3.01	+ 1.92	+13.66
Kansas City, Mo.	— 4.22	— 7.06	+ 2.50	+ 2.99	+ 2.03	+ 4.14
St. Joseph	— 0.81	— 6.65	— 2.97	— 8.19	+ 1.77	+18.52
St. Louis	+ 1.94	— 6.62	— 1.05	+ 3.32	+ 5.39	— 3.56
Lincoln	+14.32	— 9.26	+ 4.07	— 7.51	+ 1.19	+ 2.04
Omaha	+ 1.68	—14.48	+ 4.59	+ 7.08	+ 1.43	+ 1.99
Kansas City, Kansas	+13.13	— 3.14	+ 1.61	— 4.47	+ 5.10	— 8.45
Topeka	+ 4.22	— 3.85	— 6.77	— 0.48	+ 1.43	+ 2.90
Wichita	—20.06	— 8.55	+ 8.89	+10.98	+ 3.08	+ 4.06
Helena	—10.90	— 0.31	+ 1.49	+ 3.81	+ 1.02	+ 2.91
Denver	— 0.55	— 6.71	— 3.88	— 0.67	+ 6.97	+ 3.83
Pueblo	— 4.27	+ 5.55	+ 9.88	+ 9.06	—19.44	+ 0.07
Muskogee	+ 5.05	— 8.81	— 7.81	—16.24	+10.97	+22.21
Oklahoma City	+ 2.14	— 3.00	+ 3.91	— 5.00	+ 7.07	— 4.00
Tulsa	+14.75	— 5.26	+ 1.02	+ 2.72	— 4.45	— 3.50
Seattle	+ 7.90	+ 1.66	+ 0.43	— 5.30	— 4.35	+ 1.25
Spokane	+11.98	+ 3.49	— 3.95	— 7.02	— 1.75	— 0.67
Portland	+ 6.99	+ 5.70	— 0.62	+ 0.21	— 2.79	— 5.94
Los Angeles	+10.23	+19.06	+12.08	+ 3.39	— 8.27	—21.10
Oakland	+ 0.89	— 2.68	— 6.26	+10.00	— 1.93	+ 1.12
San Francisco	+21.34	+10.21	+21.20	+19.46	+23.52	—28.38
Ogden	—20.55	+11.24	+11.60	+ 3.19	— 6.20	+ 3.08
Salt Lake City	— 0.51	— 4.37	+ 3.96	— 2.66	+ 3.39	— 0.13

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

E. Total Demand Deposits to Total Deposits

Cities	1922	1923	1924	1925	1926	1927
New York	+1.59	+0.25	+1.58	+0.01	+0.31	—3,13
Chicago (Central Reserve)	+5.10	+3.51	+2.40	—1.27	—2.64	—4.48
Boston	+14.18	+6.55	+2.77	—2.00	—4.43	—9.57
Albany	+0.18	+0.02	+1.43	—2.52	—1.75	+2.93
Brooklyn and Bronx	+10.51	+7.52	+3.90	+0.63	—5.32	—8.09
Buffalo	+36.92	+5.98	—1.73	—1.09	—60.01	—58.10
Philadelphia	+11.30	+7.46	+2.68	—1.02	—6.40	—9.06
Pittsburgh	+8.94	+7.86	—0.80	—2.68	—3.70	—5.45
Baltimore	+10.41	+6.61	+2.89	—7.02	—1.92	—8.51
Washington	+5.08	—0.21	—0.41	—1.90	+1.84	—3.09
Richmond	+2.57	—1.81	+0.60	—1.06	+1.65	—2.02
Atlanta	+5.03	—1.41	+0.60	+3.31	+0.39	—6.45
Jacksonville	—2.02	—9.51	—2.75	+5.18	+13.15	—11.35
Birmingham	—4.05	+0.02	—5.31	+1.85	+0.46	+4.80
New Orleans	+7.49	+1.29	—2.21	—1.93	—1.59	—2.69
Dallas	+8.59	+0.59	—3.25	—2.44	+0.48	—2.33
El Paso	—5.93	—3.51	—4.67	+5.18	+3.29	+6.46
Fort Worth	+1.69	+1.86	—3.45	—0.12	+1.08	—1.04
Galveston	+12.42	+9.02	—7.57	—7.44	+4.44	+1.31
Houston	+5.18	+1.43	—1.11	+0.48	—1.66	—2.32
San Antonio	+13.07	+4.13	+2.52	—1.03	—3.86	—6.34
Waco	+13.73	+6.22	—0.03	+0.84	—6.01	—10.15
Little Rock	—9.11	+8.11	+7.46	—1.04	—1.89	—9.44
Louisville	+4.22	+2.93	—2.09	—1.37	+5.02	—6.52
Memphis	+11.86	+8.46	+1.90	—6.56	—3.58	—4.22
Nashville	+12.52	+7.83	+5.40	—0.53	—6.50	—12.63
Cincinnati	+9.75	+5.72	+1.48	—5.38	—4.17	—7.33
Cleveland	+24.28	+12.12	+6.85	—11.05	—8.95	—10.48
Columbus	+7.99	+6.85	—0.01	—6.36	—4.06	—2.27
Toledo	+19.82	+18.72	—8.25	—14.01	—32.78	—37.55
Indianapolis	+4.28	+5.76	+3.30	+2.24	—3.77	—8.62
Chicago	—3.69	—6.01	—4.15	+3.94	+6.67	—0.77
Peoria	—3.01	+0.12	+2.57	—2.42	+1.45	+0.74
Detroit	+8.90	+7.99	+6.99	—5.36	—5.33	—5.72
Grand Rapids	—1.50	+0.71	—2.61	+2.87	+2.34	—2.57
Milwaukee	—1.14	—0.56	+0.52	+1.41	+1.48	—2.16
Minneapolis	+18.44	+3.51	—0.88	+0.89	—4.01	—9.71
St. Paul	—2.06	+8.94	+12.17	+0.76	—4.69	—11.50
Cedar Rapids	+7.09	+3.69	—1.13	—5.61	+3.06	—3.56
Des Moines	+1.06	+0.65	—2.64	—1.88	—0.24	+2.75
Dubuque	+27.73	—2.29	+3.40	—1.92	—6.41	—7.15
Sioux City	+5.35	—4.19	—2.67	—1.77	—0.32	+3.92
Kansas City, Mo.	+1.34	+1.08	+1.32	+1.28	+0.02	—4.26
St. Joseph	+2.85	+0.79	—4.23	—6.37	+1.66	+5.52
St. Louis	+6.72	+1.42	—0.03	—1.42	+0.24	—4.28
Lincoln	+22.07	—5.93	—2.62	—1.71	—2.43	—2.58
Omaha	+2.63	—1.97	—0.86	+2.77	—0.86	—2.02
Kansas City, Kansas	+5.27	+3.46	+1.70	+2.12	+2.93	—11.57
Topeka	+5.24	+4.36	+3.71	—2.10	—2.02	—2.57
Wichita	—11.44	—2.59	+3.35	+4.04	+3.16	+2.13
Helena	—0.69	—0.71	+3.98	+1.06	—1.26	—1.94
Denver	+1.60	—2.08	—5.91	+0.59	+4.00	+1.86
Pueblo	+12.03	+4.91	+2.07	+1.08	—10.24	—6.21
Muskogee	+4.67	—6.35	—5.33	—10.30	+7.26	+11.11
Oklahoma City	+1.99	+0.47	—2.32	—2.51	+4.45	—2.08
Tulsa	+1.85	+2.72	+2.41	+2.46	—4.77	—1.72
Seattle	+3.85	+1.50	—1.58	—2.15	—1.87	—8.39
Spokane	+12.18	+7.48	—3.05	—7.26	—3.34	—3.10
Portland	+13.08	+8.59	+0.67	—3.42	—4.64	—7.41
Los Angeles	+15.46	+19.92	+12.67	+4.59	—9.38	—23.47
Oakland	+2.58	—0.94	—5.45	+5.60	+2.10	—2.74
San Francisco	+31.88	+31.92	+22.29	+20.98	+28.21	—35.07
Ogden	—14.19	+5.55	+6.51	+0.47	—1.60	+3.14
Salt Lake City	+5.18	—2.03	—1.27	—1.52	+0.32	+0.24

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

F. Total Time Deposits to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	— 9.48	— 9.48	—12.55	+ 2.78	+ 0.29	+24.71
Chicago (Central Reserve)	—50.85	—36.17	—23.20	+16.91	+24.64	+50.20
Boston	—52.26	—27.83	— 8.75	+12.59	+18.40	+34.22
Albany	— 3.27	— 5.30	— 9.50	+13.16	+ 9.89	— 9.42
Brooklyn and Bronx	—72.26	—50.96	—25.22	— 1.74	+35.91	+52.96
Buffalo	—53.97	—11.67	+ 6.69	+ 7.81	+65.94	+64.61
Philadelphia	—66.49	—45.21	—15.13	+10.09	+40.34	+54.79
Pittsburgh	—38.42	—34.86	+ 0.87	+13.50	+19.21	+24.92
Baltimore	—36.40	—29.04	— 9.49	+28.00	+10.29	+31.74
Washington	—11.74	— 7.26	+ 1.02	+ 4.49	— 0.10	+ 9.23
Richmond	—10.57	— 4.13	+ 0.26	+ 3.31	+ 2.23	+10.97
Atlanta	—12.90	— 2.23	+ 3.26	— 3.10	— 0.06	+10.38
Jacksonville	+ 3.66	+ 5.31	+ 5.01	— 9.61	— 5.16	+ 8.67
Birmingham	— 1.36	+ 1.64	+13.56	— 3.97	— 0.74	— 6.48
New Orleans	—67.55	—14.11	+35.34	+19.30	+ 4.83	+21.59
Dallas	—33.79	+ 1.68	+14.37	+11.26	— 1.36	+ 1.75
El Paso	+ 0.36	— 4.05	+20.62	— 2.28	— 2.75	— 9.82
Fort Worth	— 0.78	— 8.81	+ 7.68	— 0.15	— 3.62	+ 5.53
Galveston	+ 0.15	+ 1.91	+ 9.87	— 7.41	+ 0.26	— 0.82
Houston	—15.01	— 9.92	+ 1.19	+ 0.76	+ 9.34	+ 7.61
San Antonio	—44.23	—19.67	— 9.36	+11.85	+19.01	+24.75
Waco	—31.16	—16.59	— 2.19	— 0.75	+13.92	+29.45
Little Rock	+18.41	—26.40	— 2.38	+ 8.75	— 6.37	+27.36
Louisville	—14.26	—19.28	+ 8.03	+10.38	— 2.82	+14.61
Memphis	—16.32	—18.78	— 7.32	+ 6.39	+11.49	+23.93
Nashville	—18.34	—15.21	—13.95	— 1.68	+ 8.92	+31.84
Cincinnati	—36.25	—26.51	— 1.17	+18.27	+17.22	+43.79
Cleveland	—29.40	—14.58	— 7.71	+10.78	+13.60	+14.60
Columbus	—32.98	—35.68	+ 0.63	+31.03	+18.00	+11.89
Toledo	—28.56	—33.34	+21.40	+20.10	+40.26	+69.56
Indianapolis	—33.62	—47.16	—24.27	—15.23	+30.04	+78.26
Chicago	+ 0.12	+ 2.64	+ 3.24	+ 0.88	— 2.21	— 3.05
Peoria	+ 1.60	— 5.20	— 3.07	+ 0.24	+ 1.60	+ 4.10
Detroit	—30.80	—30.99	—21.94	+18.34	+17.53	+19.78
Grand Rapids	— 7.91	— 5.27	+ 0.53	+ 0.83	+ 6.90	+ 4.23
Milwaukee	+ 1.03	— 6.81	+ 2.75	+ 1.61	— 2.60	+ 3.52
Minneapolis	—42.69	— 9.80	+ 7.61	+ 0.95	+ 7.83	+22.31
St. Paul	— 0.97	—29.09	—24.24	— 3.05	+12.44	+38.25
Cedar Rapids	— 8.11	—22.02	+ 0.96	+ 2.70	— 2.60	+23.40
Des Moines	— 7.01	—17.13	+10.52	+ 1.42	+ 8.90	+ 4.25
Dubuque	—29.05	+ 0.77	+ 3.47	— 0.81	+ 3.71	+10.65
Sioux City	—12.10	— 2.85	+ 7.99	+ 0.95	+ 2.64	+ 3.96
Kansas City, Mo.	—18.56	—18.22	—12.70	—11.70	+ 1.67	+56.01
St. Joseph	— 6.80	— 8.24	+ 6.43	+ 5.56	— 1.83	+ 5.00
St. Louis	—20.80	—11.26	—11.26	+ 8.61	+ 4.51	+11.73
Lincoln	—19.19	+15.07	+15.94	— 0.70	+11.87	+13.50
Omaha	—11.39	— 5.82	+ 9.23	— 7.43	+ 5.88	+12.63
Kansas City, Kansas	—13.50	—18.32	— 6.35	—13.78	— 8.96	+47.75
Topeka	—56.79	—51.28	—43.70	+24.48	+25.95	+34.64
Wichita	+18.18	+ 0.13	— 1.55	— 4.28	— 8.11	— 3.57
Helena	— 9.10	+ 1.70	— 9.61	+ 0.67	+ 4.69	+ 8.71
Denver	— 4.27	— 1.98	+10.88	— 2.06	— 2.82	— 0.67
Pueblo	—37.00	—10.18	+ 2.78	+ 5.38	+ 9.82	+21.25
Muskogee	- 7.16	+ 7.39	+ 5.81	+ 8.95	— 8.60	— 9.70
Oklahoma City	— 4.45	— 4.45	+12.09	+ 2.11	— 7.94	+ 2.78
Tulsa	+ 5.77	—15.97	— 9.18	— 7.85	+16.17	+ 3.77
Seattle	—3.79	— 2.77	+ 5.08	+ 0.76	+ 0.99	— 0.88
Spokane	—11.60	—10.50	+ 1.93	+ 7.10	+ 4.78	+ 5.43
Portland	—19.60	—12.24	— 2.02	+ 7.87	+ 7.38	+10.26
Los Angeles	—28.26	—32.52	—20.80	— 8.45	+16.41	+41.94
Oakland	—10.93	+ 1.66	+18.93	—17.16	—11.26	+14.40
San Francisco	—53.20	—57.61	—34.98	—33.16	—45.60	+69.83
Ogden	+24.28	— 8.71	—11.65	+ 1.53	— 1.06	— 7.61
Salt Lake City	—16.74	+ 2.19	+ 8.41	+ 2.30	+ 2.34	— 0.94

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

G. Total Time Deposits to Total Deposits

Cities	1922	1923	1924	1925	1926	1927
New York	—10.46	— 1.67	—10.38	— 0.08	— 2.05	+20.62
Chicago (Central Reserve)	—46.92	—32.33	—22.13	+11.73	+24.28	+41.21
Boston	—49.80	—23.01	— 9.74	+ 7.94	+15.56	+33.61
Albany	— 0.97	— 0.13	— 7.85	+13.82	+ 9.60	—16.09
Brooklyn and Bronx	—71.45	—51.17	—26.52	— 4.29	+36.19	+54.99
Buffalo	—57.36	— 9.30	+ 2.68	+ 1.69	+93.22	+90.26
Philadelphia	—64.37	—42.47	—15.27	+ 5.83	+36.44	+51.57
Pittsburgh	—36.17	—31.78	+ 3.23	+10.85	+14.98	+22.05
Baltimore	—35.76	—22.72	— 9.94	+24.14	+ 6.61	+29.24
Washington	—10.75	+ 0.44	+ 0.87	+ 4.02	— 3.90	+ 6.55
Richmond	— 4.38	+ 3.08	— 1.03	+ 1.81	— 2.81	+ 3.43
Atlanta	— 9.19	+ 2.57	— 1.10	— 6.05	— 0.71	+11.80
Jacksonville	+ 1.98	+ 9.29	+ 2.69	— 5.06	—12.85	+11.09
Birmingham	+ 5.17	— 0.02	+ 6.78	— 2.37	— 0.59	— 6.12
New Orleans	—67.97	—11.68	+20.04	+17.52	+14.40	+24.37
Dallas	—37.07	— 2.50	+14.04	+10.53	— 2.07	+10.05
El Paso	+ 9.97	+ 5.90	+ 7.86	— 8.71	— 5.52	—10.86
Fort Worth	— 6.00	— 6.59	+12.23	+ 0.41	— 3.82	+ 3.68
Galveston	— 7.41	— 5.38	+ 4.52	+ 4.44	— 2.65	— 0.78
Houston	—11.78	— 3.24	+ 2.52	— 1.08	+ 3.76	+ 5.27
San Antonio	—36.87	— 7.83	— 7.11	+ 2.90	+10.89	+17.88
Waco	—27.89	—12.64	+ 0.06	— 1.70	+12.22	+20.62
Little Rock	+17.93	—15.97	—14.70	+ 2.05	+ 3.71	+18.59
Louisville	— 6.92	— 4.80	+ 3.43	+ 2.24	— 8.24	+10.69
Memphis	—17.39	—12.40	— 2.79	+ 9.62	+ 5.25	+ 6.19
Nashville	—19.41	—12.14	— 8.36	+ 0.82	+10.07	+19.58
Cincinnati	—30.57	—17.95	— 4.63	+16.88	+13.07	+23.00
Cleveland	—23.81	—11.89	— 6.72	+10.84	+ 8.78	+10.28
Columbus	—35.15	—30.13	+ 0.05	+27.97	+17.87	+ 9.99
Toledo	—29.41	—27.77	+12.25	+20.79	+48.64	+55.72
Indianapolis	—30.82	—41.48	—23.77	—16.15	+27.13	+62.05
Chicago	+ 2.13	+ 3.47	+ 2.40	— 2.27	— 3.85	+ 0.44
Peoria	+ 4.01	— 0.16	— 3.43	+ 3.22	— 1.94	— 0.98
Detroit	—32.83	—29.50	—25.80	+19.79	+19.65	+21.11
Grand Rapids	+ 1.59	— 0.73	+ 2.67	— 2.93	— 2.38	+ 2.63
Milwaukee	+ 2.37	+ 1.17	— 1.08	— 2.93	— 3.08	+ 4.50
Minneapolis	—49.59	— 9.43	+ 2.38	— 2.25	+10.78	+26.10
St. Paul	+4.69	—20.37	—27.75	— 1.74	+10.69	+26.21
Cedar Rapids	— 7.27	— 3.79	+ 1.15	+ 5.75	— 3.14	+ 3.65
Des Moines	— 3.99	— 2.42	+ 9.88	+ 7.03	+ 0.90	—10.30
Dubuque	—18.91	+ 1.56	— 2.32	+ 1.31	+ 4.37	+ 4.88
Sioux City	— 6.78	+ 5.30	+ 3.38	+ 2.24	+ 0.41	— 4.96
Kansas City, Mo.	—13.60	—11.01	—13.48	—13.15	— 0.22	+43.60
St. Joseph	— 3.40	— 0.94	+ 5.04	+ 7.58	— 1.97	— 6.57
St. Louis	—17.06	— 3.61	+ 0.07	+ 3.61	— 0.60	+10.86
Lincoln	—71.70	+19.25	+ 8.50	+ 5.57	+ 7.91	+ 8.37
Omaha	—10.67	+ 7.99	+ 3.49	—11.22	+ 3.49	+ 8.19
Kansas City, Kansas	—19.46	—12.76	— 6.28	— 7.83	—10.83	+42.73
Topeka	—56.29	—46.89	—39.84	+22.56	+21.74	+27.61
Wichita	+30.28	+ 6.61	— 8.57	—10.31	— 8.07	— 5.44
Helena	+ 1.29	+ 1.31	— 7.40	— 1.97	+ 2.34	+ 3.60
Denver	— 2.22	+ 2.88	+ 8.17	— 0.81	— 5.53	— 2.57
Pueblo	—26.26	—10.73	— 4.52	— 2.36	+22.34	+13.62
Muskogee	— 7.53	+10.24	+ 8.60	+16.62	—14.32	—17.93
Oklahoma City	— 4.59	— 1.09	+ 5.35	+ 5.78	—10.23	+ 4.79
Tulsa	— 6.13	— 9.02	— 7.99	— 8.16	+15.85	+ 5.70
Seattle	— 7.36	— 2.88	+ 3.03	+ 4.34	+ 3.58	+16.04
Spokane	—11.59	— 7.12	+ 2.91	+ 6.91	+ 3.18	+ 2.95
Portland	—15.01	— 9.86	— 0.77	+ 3.93	+ 5.33	+ 8.51
Los Angeles	—24.84	—32.01	—20.36	— 7.38	+15.07	+37.72
Oakland	— 9.46	+ 3.45	+19.94	—20.50	— 7.69	+10.02
San Francisco	—49.12	—49.19	—34.35	—32.32	—43.48	+54.05
Ogden	+34.21	—13.37	—15.69	— 1.13	+ 3.85	— 7.57
Salt Lake City	—11.99	+ 4.70	+ 2.95	+ 3.51	— 0.73	— 0.56

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

H. Total Gross Earnings to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+ 8.16	+ 5.95	— 6.29	— 4.76	— 1.53	— 0.85
Chicago (Central Reserve)	+23.37	+ 1.99	+ 2.36	— 1.11	— 5.44	— 6.88
Boston	+14.75	—16.21	+ 0.55	+ 6.19	— 5.10	+ 3.28
Albany	+11.54	+10.81	+ 2.20	— 4.58	— 5.12	—10.26
Brooklyn and Bronx	+11.69	+ 5.58	— 3.78	+ 2.88	± 0.00	— 9.17
Buffalo	+ 8.50	— 3.59	+ 6.37	— 7.19	— 3.59	± 0.00
Philadelphia	+ 9.74	— 1.41	+ 0.35	— 6.26	+ 0.17	— 1.22
Pittsburgh	+ 8.94	+ 2.44	— 7.15	+ 2.28	— 3.25	— 1.46
Baltimore	+ 6.27	— 3.47	+ 4.46	—11.39	+ 3.63	+ 1.98
Washington	+ 0.98	— 4.09	+ 4.58	— 1.31	+ 1.14	— 1.47
Richmond	+ 2.17	— 3.10	+ 4.03	— 5.27	+10.85	— 8.68
Atlanta	+ 1.33	+12.26	— 7.24	+ 7.39	— 2.07	— 7.24
Jacksonville	+ 2.25	+ 1.20	— 0.60	—18.77	+13.06	+ 3.90
Birmingham	— 0.15	— 0.60	+ 3.25	— 3.98	+ 0.90	+ 0.90
New Orleans	+ 1.52	— 3.81	+13.20	— 5.33	— 4.57	+ 1.27
Dallas	— 3.11	+ 6.66	+ 7.69	—11.69	+ 8.73	— 5.33
El Paso	+ 8.99	+ 1.91	+14.30	—12.40	— 7.36	— 6.95
Fort Worth	+18.58	— 6.38	+11.77	— 6.10	—10.50	+ 0.99
Galveston	+21.95	+10.97	—15.52	+ 0.78	+ 7.84	— 5.33
Houston	+ 2.77	+ 2.34	+ 9.05	— 5.26	— 0.58	— 5.40
San Antonio	+ 1.16	± 0.00	+ 4.63	+ 2.57	+ 9.77	—14.27
Waco	+ 8.38	+ 7.33	+10.21	—10.34	— 3.67	— 8.38
Little Rock	+35.80	—16.60	+ 5.08	— 5.90	— 4.80	— 2.47
Louisville	+ 4.17	— 6.25	+ 2.60	+ 2.43	+ 1.39	— 3.47
Memphis	+22.16	— 4.13	— 2.40	— 5.87	+ 9.48	—14.95
Nashville	+16.74	+ 3.58	— 3.43	— 8.58	+ 0.86	— 5.44
Cincinnati	+ 2.00	— 8.32	— 1.54	— 8.01	— 3.39	+32.67
Cleveland	+ 5.86	— 5.21	— 0.98	± 0.00	— 5.05	+ 6.68
Columbus	— 1.51	— 2.11	+ 6.03	+ 7.69	— 1.96	— 6.33
Toledo	+ 0.28	—10.08	+44.82	—15.97	—22.83	—10.22
Indianapolis	+ 4.22	— 5.36	— 2.27	+22.08	—18.83	+ 2.76
Chicago	+ 3.72	— 4.57	— 3.05	— 1.69	— 2.03	+ 7.28
Peoria	+ 7.69	— 0.54	— 2.50	— 6.98	+ 3.04	+ 0.54
Detroit	+ 3.82	+ 6.60	+10.24	—17.19	— 5.03	+ 9.72
Grand Rapids	— 3.43	— 8.30	— 1.43	+ 0.28	+ 8.73	+ 3.43
Milwaukee	+34.23	— 2.36	— 2.70	— 5.73	— 7.25	— 6.58
Minneapolis	+20.67	— 5.71	+10.76	— 7.06	— 6.72	— 4.87
St. Paul	+19.84	+ 6.61	— 5.50	— 9.19	— 7.74	— 1.61
Cedar Rapids	+42.05	—11.85	— 0.33	— 4.55	— 2.27	—10.88
Des Moines	+25.94	—10.85	+10.69	— 6.60	— 0.94	—12.89
Dubuque	+15.57	— 0.71	+ 5.13	— 4.07	— 3.72	— 5.66
Sioux City	+20.44	— 0.74	+13.63	— 9.63	—11.85	—11.11
Kansas City, Mo.	+12.33	+ 0.11	+ 2.71	— 4.96	— 3.46	— 7.37
St. Joseph	+12.63	+ 0.90	+ 1.20	— 4.81	— 4.66	— 4.36
St. Louis	+11.09	+ 1.41	+ 5.46	— 1.76	—10.04	— 1.76
Lincoln	+11.59	—14.17	+ 7.73	— 4.99	+ 2.74	+ 1.29
Omaha	+10.00	— 4.65	+10.70	—12.53	+ 0.14	— 2.54
Kansas City, Kansas	+21.79	+ 4.01	+ 6.41	— 1.28	—11.22	—11.54
Topeka	+20.46	+ 6.87	+12.77	—34.70	+ 4.42	+ 8.02
Wichita	— 3.77	+ 0.98	+16.90	— 1.82	— 1.82	— 5.17
Helena	+16.12	+ 4.10	+ 1.98	— 5.38	— 3.54	— 9.62
Denver	— 0.31	— 8.74	+11.06	— 6 75	— 0.46	+ 4.60
Pueblo	+10.13	+ 2.53	— 3.66	— 3.24	+ 3.24	— 7.45
Muskogee	+12.55	+ 2.64	+ 5.28	+ 1.32	—12.95	— 9.64
Oklahoma City	+ 5.91	+ 8.60	+13.17	+ 7.80	—10.21	—16.15
Tulsa	+ 1.15	+ 2.58	+11.33	— 3.01	—13.34	+ 5.60
Seattle	+ 3.05	+ 1.89	— 1.45	— 4.22	— 2.18	+ 3.49
Spokane	+14.09	— 6.21	— 2.12	— 6.67	— 0.60	+ 2.58
Portland	+ 3.11	— 5.41	+ 0.98	+ 2.62	— 1.31	+ 0.16
Los Angeles	+ 2.28	— 6.35	+ 5.21	— 5.21	+ 1.63	+ 2.77
Oakland	+ 5.37	± 0.00	+ 5.03	—14.26	± 0.00	+ 2.18
San Francisco	+33.08	+ 8.87	+19.78	+12.01	+20.52	—28.47
Ogden	+19.50	— 4.70	— 2.21	+ 1.93	+ 1.52	—17.98
Salt Lake City	+30.90	— 4.03	— 4.78	— 8.51	— 5.22	— 3.43

TABLE 222—(*Continued*)

Percentage Differences of Ratios from the Respective City Averages for National Banks, by Cities, 1922–1927

I. Total Expenses Paid to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+ 4.56	+ 5.63	— 5.63	— 2.68	— 0.80	— 0.80
Chicago (Central Reserve)	+ 8.70	+ 5.12	+ 2.81	— 5.37	— 4.09	— 4.86
Boston	+ 8.93	—12.86	+ 4.20	+ 6.79	— 2.89	+ 3.15
Albany	+ 6.78	+ 7.32	+ 3.79	— 3.52	— 5.42	— 5.69
Brooklyn and Bronx	— 1.02	— 3.31	— 2.29	— 0.25	— 2.55	+ 6.11
Buffalo	+10.44	— 9.55	+10.22	—11.11	+ 7.11	+ 6.66
Philadelphia	+ 1.87	— 2.13	+ 0.80	+ 0.27	— 2.13	+ 2.13
Pittsburgh	+ 4.91	— 4.44	— 4.20	+ 1.40	+ 1.40	+ 1.40
Baltimore	+ 1.51	— 7.79	+ 1.51	— 6.79	+ 6.79	+ 5.78
Washington	± 0.00	— 2.14	+ 7.84	— 2.61	— 2.85	+ 0.71
Richmond	— 0.44	— 1.55	+ 1.11	+ 1.55	+ 9.75	— 9.31
Atlanta	+ 3.60	+20.20	— 2.80	— 2.40	— 1.00	— 9.20
Jacksonville	+ 4.20	— 0.60	— 0.40	—22.40	+12.00	+ 9.00
Birmingham	+ 5.73	—20.71	+13.00	— 1.76	— 4.63	+ 8.15
New Orleans	+ 9.58	— 4.02	+11.88	— 8.05	— 8.62	+ 1.72
Dallas	— 2.86	+16.74	+ 7.49	—13.66	+ 3.75	— 5.07
El Paso	+ 9.53	+ 8.68	+17.86	—12.42	—13.44	—13.10
Fort Worth	+20.66	— 9.16	+10.52	+ 0.19	—12.86	— 0.39
Galveston	+27.81	+21.10	—20.51	—1.18	+ 9.27	— 6.11
Houston	— 1.58	— 0.20	+13.98	— 3.74	— 2.36	— 4.13
San Antonio	± 0.00	— 3.03	+12.50	+ 6.14	— 0.95	—12.12
Waco	+10.49	+ 7.87	+ 6.37	—12.92	— 3.37	— 5.43
Little Rock	+30.65	—20.16	+ 3.11	— 5.24	— 1.31	+ 6.72
Louisville	+ 3.31	— 8.91	+ 3.31	+ 3.31	+ 2.29	— 2.55
Memphis	+12.95	— 3.24	— 0.54	— 6.84	+ 2.16	— 2.88
Nashville	+ 7.23	— 9.30	+ 0.41	— 6.40	+ 9.09	— 0.21
Cincinnati	—11.64	—10.05	+ 1.37	— 5.48	+ 2.74	+38.81
Cleveland	— 5.68	— 1.83	+ 1.42	— 1.83	— 2.84	+ 8.72
Columbus	— 5.46	— 7.14	+11.35	+ 6.09	— 1.68	— 2.52
Toledo	+ 3.33	— 9.79	+34.16	—12.08	—13.54	—12.71
Indianapolis	+ 8.20	+ 3.08	+ 4.10	+ 1.28	—14.10	— 0.77
Chicago	+ 1.95	— 6.93	— 3.03	— 1.30	± 0.00	+ 5.85
Peoria	+ 1.42	— 1.14	— 5.70	— 3.13	+ 4.56	+ 3.70
Detroit	+ 1.15	+ 5.77	+ 9.01	—15.93	— 2.77	+ 8.08
Grand Rapids	— 2.48	— 7.62	— 0.38	— 6.10	+ 3.43	+12.38
Milwaukee	+24.27	— 1.94	— 6.55	— 0.24	— 6.07	— 3.64
Minneapolis	+12.26	+11.20	+14.80	—11.63	— 9.09	— 9.51
St. Paul	+ 9.66	+ 6.44	— 2.30	— 3.45	— 9.43	+ 0.23
Cedar Rapids	+32.12	—13.42	+ 2.85	— 2.08	+ 2.44	—11.79
Des Moines	+10.22	—14.83	+32.06	— 3.81	— 7.82	—11.02
Dubuque	+14.86	—10.00	+ 8.33	— 0.68	— 4.05	— 2.70
Sioux City	+14.01	— 2.48	+17.38	— 8.87	— 9.57	— 9.22
Kansas City, Mo.	+12.03	— 0.20	+ 2.56	— 3.75	— 5.13	— 4.73
St. Joseph	+ 8.46	+ 1.06	+ 6.70	— 2.12	— 8.11	— 6.00
St. Louis	+ 4.54	+ 1.91	+ 4.54	— 6.70	—10.29	+ 7.18
Lincoln	+ 9.71	—16.04	+13.72	— 2.95	+ 2.11	— 2.32
Omaha	+ 9.02	— 2.63	+15.23	—10.34	— 7.71	— 2.07
Kansas City, Kansas	+12.99	+ 3.90	+ 9.09	— 0.87	— 6.71	—12.12
Topeka	+12.96	+ 5.18	+ 8.64	—29.59	+ 8.21	+ 6.26
Wichita	— 7.41	+ 1.99	+24.05	— 1.99	— 0.54	—10.85
Helena	+ 7.98	+ 5.06	— 0.39	+ 1.75	— 6.62	— 5.45
Denver	+ 1.46	+ 0.84	± 0.00	— 2.30	± 0.00	+ 0.42
Pueblo	— 6.08	—11.11	— 5.87	+ 2.72	+10.90	+ 6.71
Muskogee	+13.64	+ 3.23	+ 8.26	+ 0.72	—14.72	—15.98
Oklahoma City	+ 6.53	+10.71	+12.52	+ 3.45	— 4.90	—18.51
Tulsa	+10.28	+ 2.99	+21.12	+ 2.99	—13.83	—10.09
Seattle	+ 1.58	— 0.59	— 0.20	— 3.75	— 1.19	+ 4.35
Spokane	+ 4.35	— 9.09	+ 2.37	— 2.17	— 2.17	+ 6.13
Portland	+ 2.65	— 6.84	— 0.66	+ 3.53	+ 2.87	— 2.21
Los Angeles	— 5.91	—10.06	+ 2.19	— 2.19	+ 3.28	+ 7.66
Oakland	+ 4.52	— 3.10	+ 0.24	—14.52	+ 2.14	+ 8.81
San Francisco	+22.96	+ 5.81	+20.85	+15.83	+28.50	—27.45
Ogden	+19.72	— 5.64	+ 0.53	+ 1.58	— 2.82	—16.20
Salt Lake City	+28.07	— 4.71	— 3.69	— 3.69	— 5.12	— 5.74

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

J. Total Expenses Paid to Gross Earnings

Cities	1922	1923	1924	1925	1926	1927
New York	— 3.22	— 0.36	+ 0.71	+ 2.24	+ 0.88	— 0.06
Chicago (Central Reserve)	—11.78	+ 3.08	+ 0.42	+ 6.32	+ 1.31	+ 2.05
Boston	— 4.94	+ 4.17	+ 3.77	— 4.92	+ 2.38	+ 0.13
Albany	— 4.25	— 3.16	+ 1.58	+ 1.12	— 0.16	+ 5.22
Brooklyn and Bronx	—39.75	— 8.51	+ 1.37	— 3.11	— 2.52	+16.63
Buffalo	+ 1.73	— 6.09	+ 3.56	— 4.31	+11.20	+ 6.55
Philadelphia	— 7.31	— 0.80	+ 0.38	+ 6.89	— 2.48	+ 3.20
Pittsburgh	— 3.88	— 6.82	+ 2.99	— 0.89	+ 4.82	+ 2.83
Baltimore	— 4.50	— 4.56	— 2.94	+ 5.14	+ 3.00	+ 3.65
Washington	— 0.99	+ 1.95	+ 2.34	— 1.42	— 3.21	+ 2.30
Richmond	— 2.90	+ 1.38	— 3.03	+ 7.10	— 1.26	— 0.81
Atlanta	+ 2.27	+ 7.00	+ 4.72	— 9.15	+ 1.19	— 2.06
Jacksonville	+ 1.76	— 1.86	+ 0.09	— 4.51	— 1.13	+ 4.69
Birmingham	+ 5.85	—20.21	+ 9.46	+ 2.18	— 5.56	+ 7.04
New Orleans	+ 8.11	— 0.15	— 1.07	— 2.76	— 4.24	+ 0.57
Dallas	+ 0.12	+10.14	— 0.34	— 2.56	— 5.03	+ 0.11
El Paso	+ 0.50	+ 6.65	+ 3.04	— 0.15	— 6.50	— 6.59
Fort Worth	+ 1.73	— 2.98	— 1.15	+ 6.66	— 2.39	— 8.54
Galveston	+ 4.91	+ 9.20	— 5.83	— 1.79	+ 1.40	— 0.78
Houston	— 4.32	— 2.46	+ 4.53	+ 1.59	— 1.78	+ 1.43
San Antonio	— 1.03	— 3.01	+ 7.52	+ 3.86	— 9.74	+ 3.61
Waco	+ 2.12	+ 0.63	— 3.28	— 2.26	+ 0.37	+ 3.41
Little Rock	— 3.96	— 4.44	— 1.96	+ 0.57	+ 3.56	+ 9.38
Louisville	— 0.95	— 2.81	+ 0.72	+ 0.75	+ 0.91	+ 1.01
Memphis	— 7.54	+ 0.96	+ 2.00	— 1.01	— 6.50	+14.28
Nashville	— 8.14	—12.51	+ 3.97	+ 2.32	+ 8.12	+ 5.55
Cincinnati	—13.51	— 2.01	+ 2.92	+ 2.66	+ 6.23	+ 4.56
Cleveland	—10.79	+ 3.60	+ 2.58	— 1.76	+ 2.38	+ 1.99
Columbus	— 3.96	— 5.12	+ 5.00	— 1.48	+ 0.47	+ 4.06
Toledo	+ 2.99	+ 0.16	— 7.43	+ 4.44	+11.94	— 3.02
Indianapolis	+ 3.85	+ 8.92	+ 6.57	—17.02	+ 5.87	— 3.33
Chicago	— 1.70	— 0.18	+ 0.04	+ 0.41	+ 2.19	— 1.30
Peoria	— 5.69	— 0.72	— 3.12	+ 4.11	+ 1.29	+ 3.11
Detroit	— 2.33	— 0.70	— 0.93	+ 1.73	+ 2.62	— 1.20
Grand Rapids	+ 1.05	+ 0.73	+ 1.10	— 6.27	— 4.77	+ 8.78
Milwaukee	— 7.30	+ 0.49	— 3.83	+ 5.99	+ 1.38	+ 3.26
Minneapolis	— 7.05	+ 5.33	+ 3.53	— 4.94	— 2.74	— 4.98
St. Paul	— 8.38	— 0.01	+ 3.42	+ 6.39	— 1.61	+ 1.97
Cedar Rapids	— 6.97	— 1.86	+ 3.27	+ 2.67	+ 4.96	— 1.14
Des Moines	—12.44	— 4.36	+19.47	+ 3.10	— 7.11	+ 2.23
Dubuque	— 0.48	—10.31	+ 3.01	+ 3.73	— 0.30	+ 3.20
Sioux City	— 5.38	— 1.80	+ 3.22	+ 0.86	+ 2.63	+ 2.03
Kansas City, Mo.	— 0.35	— 1.38	— 0.18	+15.59	— 1.78	+ 2.67
St. Joseph	— 3.63	+ 0.15	+ 5.60	+ 2.89	— 3.43	— 1.58
St. Louis	— 5.80	+ 0.41	— 0.83	— 5.02	— 0.22	+ 7.21
Lincoln	— 1.78	— 2.27	+ 5.59	+ 2.23	— 0.73	— 3.48
Omaha	— 1.07	+ 2.15	+ 3.99	+ 2.41	— 7.99	+ 0.25
Kansas City, Kansas	— 7.24	— 0.16	+ 2.59	+ 0.36	+ 5.19	— 0.59
Topeka	— 6.22	— 1.61	— 3.54	+ 7.68	+ 3.71	— 1.57
Wichita	— 3.91	+ 2.99	+ 6.10	— 0.25	+ 1.27	— 5.98
Helena	— 6.96	+ 0.82	— 2.27	+ 7.50	— 3.25	+ 4.60
Denver	+ 1.77	+10.43	— 9.96	+ 4.87	+ 0.46	— 3.89
Pueblo	—14.76	—13.36	— 2.37	+ 6.21	+ 7.27	+15.12
Muskogee	+ 1.02	+ 2.98	+ 2.94	— 0.53	— 2.09	— 7.00
Oklahoma City	+ 0.51	+ 1.93	— 0.70	— 4.10	+ 5.97	— 2.93
Tulsa	+ 8.98	+ 0.34	+ 8.71	+ 6.12	— 0.78	—14.89
Seattle	— 1.35	— 2.48	+ 1.32	+ 0.52	+ 0.96	+ 0.79
Spokane	— 8.52	— 3.01	+ 4.55	+ 4.85	— 1.60	+ 3.46
Portland	— 0.42	— 1.47	— 1.66	+ 0.75	+ 4.17	— 2.32
Los Angeles	— 8.12	— 3.99	— 2.88	+ 3.12	+ 1.58	+ 4.82
Oakland	— 0.94	— 2.99	— 4.71	— 0.21	+ 1.99	+ 6.64
San Francisco	— 7.63	— 2.88	+ 0.74	+ 3.40	+ 6.49	+ 1.34
Ogden	+ 0.23	— 0.94	+ 2.79	— 0.27	— 4.29	+ 2.22
Salt Lake City	— 2.25	— 0.86	+ 1.03	+ 5.17	+ 0.01	— 2.50

TABLE 222—(*Continued*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

K. Net Earnings, during the year, to Earning Assets

Cities	1922	1923	1924	1925	1926	1927
New York	+14.41	+ 6.57	— 7.44	— 8.37	— 2.79	— 0.93
Chicago (Central Reserve)	+59.00	— 5.58	+ 1.24	—24.84	— 8.69	—11.80
Boston	+27.97	—23.80	— 7.73	+18.45	—10.11	+ 3.57
Albany	+21.46	+18.07	— 1.12	— 6.77	— 4.51	—19.77
Brooklyn and Bronx	+42.32	+26.98	— 7.36	+10.42	+ 6.13	—46.00
Buffalo	+ 3.08	+12.96	— 4.32	+ 3.70	—33.32	—18.51
Philadelphia	+24.50	± 0.00	— 0.50	—18.50	+ 4.50	— 7.50
Pittsburgh	+18.17	+18.17	—13.90	+ 4.27	—13.90	— 8.02
Baltimore	+15.38	+ 4.80	+10.09	—20.18	— 2.40	— 5.28
Washington	+ 3.14	— 8.37	— 0.52	+ 1.57	+ 9.94	— 6.28
Richmond	+ 8.24	— 6.70	+10.82	—21.13	+13.40	— 7.21
Atlanta	— 5.08	—10.16	—19.77	+35.02	— 5.08	— 1.69
Jacksonville	— 2.41	+ 4.42	— 0.80	— 5.23	+10.86	— 7.64
Birmingham	—12.05	+40.17	—16.51	— 8.48	+12.05	—13.83
New Orleans	—14.28	— 3.38	+15.78	± 0.00	+ 3.38	+ 0.37
Dallas	— 3.60	—13.96	+ 8.10	— 7.65	+18.91	— 5.85
El Paso	+ 6.84	—25.34	± 0.00	—12.32	+17.12	+17.81
Fort Worth	+13.02	+ 1.04	+15.10	—22.92	— 4.69	+ 4.69
Galveston	— 0.76	—28.24	+ 3.81	+ 8.39	+ 2.29	— 2.29
Houston	+15.25	+ 9.60	— 5.08	— 9.60	+ 4.52	— 9.04
San Antonio	+ 3.60	+ 6.40	—12.00	— 5.60	+32.40	—20.80
Waco	+ 3.48	+ 6.08	+19.13	— 4.34	— 4.34	—15.21
Little Rock	+62.18	+ 1.68	+15.12	— 9.24	—22.69	—49.58
Louisville	+ 6.01	— 0.55	+ 1.09	+ 0.55	— 0.55	— 5.46
Memphis	+48.79	— 6.73	— 7.77	— 2.11	+30.57	—49.74
Nashville	+38.14	+32.56	—12.09	—13.48	—17.67	—17.21
Cincinnati	+30.32	— 4.74	— 7.58	—13.27	—16.11	+19.90
Cleveland	+52.88	—19.00	—10.74	+ 7.44	—14.65	— 1.65
Columbus	+ 8.56	+10.70	— 7.49	+11.76	— 2.67	—16.04
Toledo	— 5.98	—10.68	+66.67	—23.93	—41.88	— 5.13
Indianapolis	— 2.66	—19.91	—13.28	+57.97	—26.99	+ 8.85
Chicago	+10.08	— 3.10	— 3.10	— 3.10	— 9.30	+12.40
Peoria	+18.27	+ 0.48	+ 2.88	—13.46	+ 0.48	— 4.80
Detroit	+11.89	+ 9.09	+13.99	—20.99	—11.89	+14.68
Grand Rapids	— 6.32	—10.34	— 4.60	+19.54	+24.71	—23.56
Milwaukee	+56.91	— 3.31	+ 6.08	—18.23	— 9.94	—13.26
Minneapolis	+53.28	—71.31	— 4.92	—10.66	+ 2.46	—13.12
St. Paul	+43.79	+ 7.03	—12.97	—22.70	— 3.83	— 5.94
Cedar Rapids	+81.47	— 5.64	—12.90	—14.52	—20.97	— 7.26
Des Moines	+83.21	+ 3.65	—67.15	—16.79	+24.09	—19.71
Dubuque	+18.18	+37.19	— 6.61	—16.53	— 2.48	—16.53
Sioux City	+53.15	+ 8.11	— 5.40	—13.51	—23.42	—20.72
Kansas City, Mo.	+13.29	+ 5.06	+ 3.16	— 8.86	+ 1.90	—15.82
St. Joseph	+36.73	± 0.00	—30.61	—20.41	+15.31	+ 5.10
St. Louis	+29.33	± 0.00	+ 8.00	+12.00	— 9.33	—26.67
Lincoln	+17.69	— 8.16	—11.56	—11.56	+ 4.76	+12.92
Omaha	+12.92	—10.67	— 2.81	—19.10	+23.60	— 3.93
Kansas City, Kansas	+46.91	+ 4.32	— 1.23	— 2.47	—24.07	— 9.88
Topeka	+43.92	+12.16	+25.68	—50.68	— 7.43	+13.51
Wichita	+ 8.59	—11.04	— 7.36	— 1.23	— 6.14	+14.11
Helena	+27.45	+ 1.55	+ 8.29	—24.35	+ 4.66	—20.72
Denver	— 5.17	—35.06	+41.38	—18.97	— 1.72	—16.09
Pueblo	+43.17	+30.34	+ 0.85	—15.39	—12.39	—32.06
Muskogee	+ 9.50	— 8.00	— 3.00	— 3.00	— 8.00	— 8.00
Oklahoma City	+ 4.14	+ 2.59	+15.02	+20.20	—25.39	— 9.32
Tulsa	—29.01	+ 1.23	—20.99	—22.84	—11.73	+57.41
Seattle	+ 7.14	+ 8.79	— 4.94	— 5.49	— 4.94	+ 1.10
Spokane	+46.11	+ 3.25	—16.88	—21.43	+ 4.54	— 9.09
Portland	+ 4.46	— 1.27	+ 5.73	± 0.00	—13.37	— 7.00
Los Angeles	+26.11	+ 4.46	+14.01	—14.01	— 3.18	—11.46
Oakland	+ 7.39	+ 7.39	+16.48	—13.64	— 5.11	—13.64
San Francisco	+56.79	+16.05	+17.29	+ 3.09	+ 1.85	—30.86
Ogden	+18.71	— 1.29	—12.26	+ 3.23	—17.42	—24.52
Salt Lake City	+38.46	— 2.20	— 7.69	—21.43	— 5.49	+ 2.75

TABLE 222—(*Concluded*)

PERCENTAGE DIFFERENCES OF RATIOS FROM THE RESPECTIVE CITY AVERAGES FOR NATIONAL BANKS, BY CITIES, 1922–1927

L. Net Earnings, during the year, to Gross Earnings

Cities	1922	1923	1924	1925	1926	1927
New York	+ 5.58	+ 0.63	− 1.23	− 3.88	− 1.53	+ 0.11
Chicago (Central Reserve)	+28.58	− 7.47	− 1.01	−15.35	− 3.19	− 4.97
Boston	+11.18	− 9.42	− 8.51	+11.11	− 5.38	− 0.29
Albany	+ 8.84	+ 6.59	− 3.30	− 2.34	+ 0.34	−10.57
Brooklyn and Bronx	+27.68	+20.57	− 3.31	+ 7.52	+ 6.08	−40.19
Buffalo	− 4.69	+16.96	− 9.92	+12.00	−35.28	−18.24
Philadelphia	+13.73	+ 1.50	− 0.72	−12.97	+ 4.67	− 6.02
Pittsburgh	+ 8.87	+15.65	− 6.86	+ 2.04	−11.07	− 6.49
Baltimore	+ 8.59	+ 8.76	+ 5.63	− 9.87	−34.94	− 7.01
Washington	+ 2.08	− 4.30	− 5.16	+ 3.14	+ 8.69	− 5.07
Richmond	+ 6.67	− 3.24	+ 7.07	−16.58	+ 2.94	+ 1.90
Atlanta	− 6.38	−19.78	−13.35	+25.86	− 3.37	+ 5.82
Jacksonville	− 5.28	+ 5.64	− 0.28	+13.65	+ 3.42	−14.22
Birmingham	−11.87	+41.03	−19.20	− 4.42	+11.30	−14.30
New Orleans	−15.88	+ 0.30	+ 2.10	+ 5.41	+ 8.31	− 1.12
Dallas	− 0.24	−19.25	+ 0.64	+ 4.85	+ 9.55	− 0.21
El Paso	− 2.02	−26.85	−12.29	+ 0.61	+26.25	+26.60
Fort Worth	− 4.59	+ 7.97	+ 3.46	−17.82	+ 6.40	+22.86
Galveston	−18.85	−35.52	+22.45	+ 6.90	− 5.39	+ 2.96
Houston	+12.18	+ 7.04	−12.99	− 4.56	+ 5.11	− 4.10
San Antonio	+ 1.55	+ 5.69	−16.38	− 8.71	+19.81	− 8.19
Waco	− 4.90	− 1.46	+ 7.58	+ 6.12	− 0.86	− 9.37
Little Rock	+20.07	+22.84	+10.10	− 2.96	−18.35	−48.40
Louisville	+ 2.05	+ 6.01	− 1.54	− 1.61	− 1.96	− 2.17
Memphis	+21.50	− 2.75	− 5.73	+ 2.91	+19.06	−41.05
Nashville	+18.37	+28.24	− 8.96	− 5.24	−18.34	−12.57
Cincinnati	+28.14	+ 4.19	− 6.07	− 5.55	−12.98	− 9.48
Cleveland	+43.80	−14.62	−10.47	+ 7.13	− 9.66	− 8.09
Columbus	+10.06	+13.00	−12.71	+ 3.75	− 1.20	−10.30
Toledo	− 6.15	− 0.34	+15.30	− 9.15	−24.53	+ 6.21
Indianapolis	− 6.65	−15.40	−11.34	+29.39	−10.14	+ 5.75
Chicago	+ 6.07	+ 0.64	− 0.14	− 1.46	− 7.81	+ 4.66
Peoria	+ 9.59	+ 1.21	+ 5.24	− 6.93	− 2.18	− 5.24
Detroit	+ 7.02	+ 2.13	+ 2.81	− 5.21	− 7.90	+ 3.61
Grand Rapids	− 3.17	− 2.21	− 3.33	+18.89	+14.32	−26.43
Milwaukee	+16.57	− 1.11	+ 8.69	−13.60	− 3.14	− 7.39
Minneapolis	+27.42	−69.80	−13.73	+19.21	+10.66	+19.36
St. Paul	+19.68	+ 0.03	− 8.01	−14.99	+ 3.78	− 4.62
Cedar Rapids	+27.63	+ 7.39	−12.95	−10.57	−19.64	+ 4.51
Des Moines	+45.25	+15.84	−70.73	−11.26	+25.85	− 8.11
Dubuque	+ 1.77	+37.66	−10.99	−13.64	+ 1.12	−11.69
Sioux City	+27.42	+ 9.20	−16.39	− 4.39	−13.41	−10.36
Kansas City, Mo.	+ 1.14	+ 4.44	+ 0.59	− 3.80	+ 5.75	− 8.62
St. Joseph	+20.88	− 0.88	−32.23	−16.62	+19.73	+ 9.12
St. Louis	+16.19	− 1.14	+ 2.31	+14.03	+ 0.61	−25.70
Lincoln	+ 5.75	+ 7.32	−18.06	− 7.19	+ 2.37	+11.25
Omaha	+ 3.20	− 6.64	−11.95	− 7.24	+23.95	− 0.76
Kansas City, Kansas	+20.63	+ 0.46	− 7.39	− 1.04	−14.78	+ 1.69
Topeka	+19.41	+ 5.03	+11.05	−23.99	−11.58	+ 4.91
Wichita	+13.27	−10.11	−20.70	+ 0.83	− 4.31	+20.30
Helena	+18.53	− 2.20	+ 6.04	−19.96	+ 8.65	−12.24
Denver	− 4.87	−28.59	+27.32	−13.36	− 1.27	+10.67
Pueblo	+30.15	+27.29	+ 4.84	−12.69	−14.85	−30.88
Muskogee	− 2.84	− 8.28	− 8.16	+ 1.47	+ 5.82	+19.46
Oklahoma City	− 1.47	− 5.52	+ 2.01	+11.74	−17.07	+ 8.38
Tulsa	−29.77	− 1.12	−28.86	−20.28	+ 2.59	+49.35
Seattle	+ 3.74	+ 6.88	− 3.67	− 1.44	− 2.68	− 2.19
Spokane	+27.98	+ 9.90	−14.95	−15.94	+ 5.27	−11.35
Portland	+ 1.21	+ 4.24	+ 4.78	− 2.18	−12.05	+ 6.69
Los Angeles	+23.61	+11.61	+ 8.37	− 9.07	− 4.61	−14.03
Oakland	+ 2.27	+ 7.18	+11.28	+ 0.54	− 4.71	−15.82
San Francisco	+17.89	+ 6.75	− 1.74	− 7.96	−15.21	− 3.14
Ogden	− 0.84	+ 3.45	−10.21	+ 0.98	+15.70	− 8.11
Salt Lake City	+ 6.06	+ 2.33	− 2.77	−13.92	− 0.04	+ 6.72

TABLE 223

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

A. Total Loans and Discounts to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 2.08	— 0.11	— 2.10	+ 4.06	— 0.04
Chicago (Central Reserve)	— 4.42	— 0.50	+ 3.06	— 0.06	— 1.68
Boston	+ 1.63	— 2.62	+ 3.50	— 6.54	+ 0.13
Albany	+ 0.25	— 0.12	+ 2.03	— 2.04	+ 5.29
Brooklyn and Bronx	+ 2.35	— 4.80	— 6.43	— 0.73	+ 3.02
Buffalo	— 5.98	— 4.98	— 0.15	— 7.41	+ 10.69
Philadelphia	+ 0.91	+ 2.99	— 1.90	+ 3.70	— 3.03
Pittsburgh	— 3.15	— 6.39	— 7.52	+ 3.65	— 3.44
Baltimore	— 1.45	+ 6.68	— 13.60	+ 3.18	— 3.87
Washington	+ 2.78	+ 3.16	+ 0.83	+ 2.69	+ 2.19
Richmond	— 2.13	+ 5.78	+ 1.29	— 3.56	— 0.90
Atlanta	+ 6.34	+ 4.42	— 11.96	— 4.49	— 4.97
Jacksonville	— 6.67	— 1.45	+ 9.86	— 6.52	— 12.46
Birmingham	— 4.49	+ 3.11	+ 1.89	— 0.44	+ 1.21
New Orleans	— 5.49	+ 8.10	— 2.63	+ 3.77	— 0.43
Dallas	— 5.92	+ 6.84	+ 4.06	+ 3.32	— 6.88
El Paso	+ 1.74	+ 2.24	— 9.71	— 3.27	— 4.15
Fort Worth	— 2.53	+ 6.64	— 7.71	— 2.59	+ 0.21
Galveston	— 1.83	— 12.32	+ 10.04	— 8.32	— 0.34
Houston	— 4.68	+ 8.28	— 1.83	— 0.84	— 2.50
San Antonio	— 1.25	+ 3.46	+ 1.87	— 7.67	+ 3.76
Waco	— 3.75	+ 1.52	— 4.33	+ 2.98	— 12.07
Little Rock	— 3.15	+ 12.54	+ 1.76	+ 1.12	+ 1.31
Louisville	+ 10.42	+ 8.23	— 0.92	+ 1.13	— 13.92
Memphis	+ 1.64	+ 6.01	+ 1.60	+ 5.49	— 6.95
Nashville	+ 3.46	+ 2.38	+ 7.51	+ 3.51	— 1.24
Cincinnati	+ 7.12	+ 2.82	— 2.73	+ 4.94	— 15.46
Cleveland	— 7.76	— 3.47	+ 1.38	+ 3.12	+ 2.01
Columbus	+ 6.97	+ 3.38	+ 0.28	— 0.39	— 5.67
Toledo	+ 5.52	+ 1.52	— 26.54	+ 6.22	+ 5.76
Indianapolis	— 5.50	+ 6.68	+ 1.96	+ 6.99	— 3.22
Chicago	— 1.77	— 0.08	— 1.61	+ 7.44	+ 3.40
Peoria	— 3.27	+ 1.66	— 12.67	+ 2.63	+ 3.27
Detroit	+ 1.22	+ 3.34	— 4.31	+ 7.19	— 3.18
Grand Rapids	+ 3.38	— 0.54	— 4.74	+ 16.24	+ 2.82
Milwaukee	— 1.28	— 2.69	— 1.80	— 4.56	+ 0.53
Minneapolis	— 9.55	— 0.09	— 4.37	— 5.37	— 4.98
St. Paul	+ 0.71	+ 7.07	— 15.26	+ 3.44	+ 3.59
Cedar Rapids	— 12.69	— 5.85	— 2.72	+ 3.32	+ 5.02
Des Moines	— 14.32	+ 15.74	— 16.58	+ 8.06	— 8.23
Dubuque	— 1.04	+ 7.81	— 9.67	— 8.65	+ 7.81
Sioux City	— 2.34	+ 5.31	— 7.81	— 5.78	+ 1.95
Kansas City, Mo.	— 0.43	— 0.34	— 6.30	— 3.31	— 4.11
St. Joseph	+ 1.75	+ 2.68	— 0.26	— 2.45	— 0.39
St. Louis	— 8.66	+ 1.63	+ 1.23	+ 2.87	— 1.82
Lincoln	— 13.33	+ 0.74	— 3.08	+ 2.60	+ 0.36
Omaha	— 3.06	+ 4.99	— 5.80	+ 2.32	— 7.48
Kansas City, Kansas	+ 2.69	— 3.22	— 9.99	+ 1.06	+ 1.71
Topeka	— 3.62	+ 1.08	— 4.26	— 8.25	— 8.26
Wichita	+ 5.94	— 8.37	— 8.88	+ 12.00	— 9.70
Helena	— 20.20	— 1.76	— 1.81	+ 0.24	— 6.42
Denver	— 2.21	— 3.36	— 3.27	— 4.88	— 0.38
Pueblo	+ 8.15	— 3.33	— 6.78	+ 9.85	— 2.35
Muskogee	— 2.00	— 0.89	— 6.45	— 18.59	— 21.15
Oklahoma City	+ 1.73	+ 0.34	+ 2.03	— 12.79	+ 3.95
Tulsa	— 1.95	+ 2.89	— 6.02	— 2.78	— 5.01
Seattle	— 0.53	+ 2.06	— 5.97	+ 3.51	— 1.28
Spokane	+ 2.56	— 2.15	— 4.24	— 0.96	— 3.57
Portland	— 6.12	— 3.89	— 14.14	+ 7.98	— 6.07
Los Angeles	— 2.34	— 2.01	— 0.87	+ 1.53	+ 0.21
Oakland	+ 2.25	— 2.03	+ 1.58	+ 1.44	— 6.15
San Francisco	+ 0.69	+ 1.47	— 2.90	+ 2.46	— 7.20
Ogden	+ 0.31	— 3.87	+ 2.17	+ 1.31	— 3.15
Salt Lake City	— 3.86	— 2.14	— 4.01	+ 2.06	+ 2.80

TABLE 223—(*Continued*)

Percentage Year-to-Year Changes in Ratios for National Banks, by Cities, 1922–1927

B. Total Investments to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	+ 5.27	+ 0.27	+ 4.93	— 8.91	+ 0.10
Chicago (Central Reserve)	+ 28.34	+ 2.37	— 14.23	+ 0.33	+ 9.32
Boston	— 6.96	+ 12.24	— 14.19	+ 31.96	— 0.45
Albany	— 0.52	+ 0.24	— 4.13	+ 4.44	— 10.78
Brooklyn and Bronx	— 7.85	+ 17.79	+ 19.26	+ 1.71	— 6.92
Buffalo	+ 16.23	+ 10.93	+ 0.29	+ 13.87	— 16.27
Philadelphia	— 2.82	— 9.58	+ 6.92	— 12.26	+ 12.00
Pittsburgh	+ 4.49	+ 8.46	+ 8.59	— 3.55	+ 3.60
Baltimore	+ 4.55	— 19.73	+ 53.40	— 7.03	+ 9.50
Washington	— 2.82	— 6.71	— 1.94	— 6.48	— 5.80
Richmond	+ 12.72	— 29.69	— 10.03	+ 30.94	+ 5.78
Atlanta	— 32.26	— 35.31	+154.17	+ 20.05	+ 17.66
Jacksonville	+ 16.25	+ 2.84	— 18.48	+ 16.46	+ 25.24
Birmingham	+ 19.20	— 10.66	— 7.48	+ 1.93	— 5.15
New Orleans	+ 23.82	— 26.83	+ 12.85	— 15.94	+ 2.28
Dallas	+ 17.56	— 16.22	— 12.28	— 11.93	+ 28.97
El Paso	— 8.49	— 12.18	+ 61.56	+ 11.58	+ 12.74
Fort Worth	+ 11.18	— 25.78	+ 43.03	+ 9.34	— 0.67
Galveston	+ 7.68	+ 50.30	— 23.56	+ 28.11	+ 0.82
Houston	+ 17.50	— 25.15	+ 8.04	+ 3.34	+ 9.56
San Antonio	+ 4.74	— 12.35	— 7.88	+ 35.81	— 11.93
Waco	+ 19.69	— 6.42	+ 19.81	— 10.90	+ 51.01
Little Rock	+ 15.93	— 52.98	— 17.78	— 14.05	— 19.34
Louisville	— 18.30	— 19.53	+ 2.93	— 3.46	+ 44.79
Memphis	— 5.84	— 23.13	— 8.52	— 32.34	+ 63.91
Nashville	— 10.60	— 8.45	— 29.78	— 21.27	+ 9.87
Cincinnati	— 13.33	+ 6.53	+ 5.76	— 9.59	+ 34.85
Cleveland	+ 21.17	+ 7.20	— 2.58	— 6.07	— 4.30
Columbus	— 14.07	— 8.50	— 0.81	+ 1.12	+ 16.04
Toledo	— 9.87	— 3.19	+ 58.31	— 6.34	— 6.66
Indianapolis	+ 14.28	— 14.35	— 5.25	— 20.12	+ 12.43
Chicago	+ 1.64	+ 0.08	+ 1.44	— 6.46	— 3.40
Peoria	+ 8.50	— 3.85	+ 31.07	— 4.29	— 5.72
Detroit	— 3.92	— 10.86	+ 17.00	— 23.18	+ 14.29
Grand Rapids	— 9.30	+ 1.69	+ 14.51	— 41.38	— 13.62
Milwaukee	+ 9.49	+ 17.94	+ 9.88	+ 22.43	— 2.03
Minneapolis	+ 54.78	+ 0.30	+ 14.58	+ 14.96	+ 11.43
St. Paul	— 1.47	— 14.94	+ 40.50	— 5.52	— 6.31
Cedar Rapids	+ 52.73	+ 13.90	+ 5.33	— 6.02	— 10.00
Des Moines	+ 77.33	— 41.08	+ 82.46	— 18.65	+ 25.28
Dubuque	+ 1.22	— 9.00	+ 13.20	+ 9.42	— 7.10
Sioux City	+ 9.33	— 18.94	+ 36.15	+ 18.11	— 4.87
Kansas City, Mo.	+ 2.22	+ 1.69	+ 31.12	+ 11.68	+ 12.57
St. Joseph	— 8.87	— 15.20	+ 1.81	+ 16.45	+ 2.19
St. Louis	+ 33.45	— 4.30	— 3.46	— 8.44	+ 6.03
Lincoln	+126.81	— 2.69	+ 11.58	— 8.50	— 1.31
Omaha	+ 16.60	— 22.19	+ 35.24	— 9.84	+ 35.93
Kansas City, Kansas	— 10.05	+ 13.75	+ 36.27	— 2.55	— 4.26
Topeka	+ 6.01	— 1.63	+ 6.60	+ 11.48	+ 9.46
Wichita	— 18.06	+ 32.89	+ 24.08	— 23.89	+ 28.41
Helena	+123.81	+ 3.85	+ 3.74	— 0.47	+ 12.65
Denver	+ 4.40	+ 6.28	+ 5.56	+ 7.59	+ 0.52
Pueblo	— 8.49	+ 3.96	+ 7.49	— 9.43	+ 2.72
Muskogee	+ 7.12	+ 2.90	+ 20.25	+ 45.42	+ 28.94
Oklahoma City	— 3.60	— 0.73	— 4.50	+ 30.25	— 6.25
Tulsa	+ 13.83	— 17.63	+ 45.90	+ 13.66	+ 21.07
Seattle	+ 0.93	— 3.53	+ 10.83	— 5.41	+ 2.15
Spokane	— 13.31	+ 13.21	+ 22.52	+ 3.96	+ 14.12
Portland	+ 16.14	+ 8.29	+ 26.73	— 10.22	+ 9.35
Los Angeles	+ 11.00	+ 8.32	+ 3.27	— 5.51	— 0.82
Oakland	— 5.81	+ 5.71	— 4.10	— 3.98	+ 17.91
San Francisco	— 2.14	— 4.70	+ 9.87	— 7.42	+ 23.99
Ogden	— 0.92	+ 11.77	— 5.68	— 3.72	+ 9.40
Salt Lake City	+ 14.03	+ 6.54	+ 11.28	— 5.00	— 7.28

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

C. Total Deposits to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 8.91	+ 6.02	+ 5.42	— 0.53	+ 1.09
Chicago (Central Reserve)	+ 2.34	+ 4.11	+ 6.05	— 4.19	+ 6.03
Boston	— 1.45	+ 7.82	+ 4.02	— 2.60	— 1.92
Albany	— 2.89	+ 3.57	+ 1.21	+ 0.85	+ 7.70
Brooklyn and Bronx	+ 3.43	+ 1.24	+ 0.81	— 2.77	— 1.07
Buffalo	— 4.63	+ 6.68	+ 2.06	— 18.99	+ 0.55
Philadelphia	+ 1.31	+ 4.92	+ 3.89	— 1.12	— 0.73
Pittsburgh	— 1.02	+ 2.30	+ 4.77	+ 1.24	— 1.24
Baltimore	— 7.24	+ 9.44	+ 2.55	+ 0.26	— 1.39
Washington	— 6.63	+ 8.49	+ 0.29	+ 3.44	— 1.30
Richmond	— 0.54	+ 8.91	+ 0.16	+ 3.66	+ 1.98
Atlanta	— 0.62	+ 9.55	— 1.23	— 2.44	— 1.89
Jacksonville	— 5.21	+ 6.13	— 9.11	+ 17.11	— 10.14
Birmingham	+ 8.38	+ 4.57	— 7.47	— 1.58	+ 2.91
New Orleans	— 4.01	+ 15.90	— 9.99	— 9.72	+ 6.74
Dallas	— 0.84	— 3.85	+ 0.34	+ 0.08	— 9.37
El Paso	— 0.71	+ 23.43	— 4.27	— 3.87	— 1.70
Fort Worth	— 7.47	— 1.75	+ 3.64	+ 0.75	+ 1.61
Galveston	— 0.38	— 2.43	— 15.66	+ 16.16	— 3.03
Houston	— 3.32	+ 6.03	+ 3.15	+ 3.45	— 2.99
San Antonio	— 1.42	+ 11.98	+ 11.37	— 1.29	— 1.36
Waco	+ 0.04	+ 2.33	+ 3.30	+ 0.58	+ 5.70
Little Rock	— 10.01	+ 30.67	— 6.91	— 15.29	+ 18.49
Louisville	— 7.95	+ 23.19	+ 3.32	— 1.88	— 2.22
Memphis	— 8.47	+ 2.83	+ 1.80	+ 9.11	+ 2.32
Nashville	— 4.69	— 2.74	+ 3.89	+ 1.93	+ 10.91
Cincinnati	— 2.44	+ 15.70	— 2.42	+ 2.52	+ 12.75
Cleveland	+ 4.62	+ 2.05	+ 1.02	+ 4.48	— 0.49
Columbus	— 10.78	+ 9.09	+ 1.80	— 2.26	+ 1.63
Toledo	— 8.82	+ 17.14	— 5.69	— 7.47	+ 15.38
Indianapolis	— 6.10	+ 10.12	+ 1.77	+ 1.20	+ 7.57
Chicago	+ 1.19	+ 1.64	+ 2.36	— 1.54	— 5.00
Peoria	— 2.81	+ 5.69	— 3.24	+ 6.69	+ 1.49
Detroit	— 4.99	+ 7.50	— 6.13	— 0.57	+ 0.69
Grand Rapids	+ 5.22	+ 2.61	+ 6.08	+ 5.44	— 7.26
Milwaukee	— 6.62	+ 12.74	+ 0.80	— 4.02	— 1.41
Minneapolis	+ 9.35	+ 9.46	— 3.08	— 2.33	+ 3.01
St. Paul	— 5.77	+ 17.63	— 5.89	+ 2.93	+ 7.85
Cedar Rapids	— 18.21	+ 23.17	— 2.69	+ 3.55	+ 18.38
Des Moines	— 12.35	+ 18.49	— 5.78	+ 13.88	+ 7.70
Dubuque	+ 12.39	+ 6.77	— 7.56	+ 1.51	+ 6.16
Sioux City	- 2.13	+ 13.21	— 5.48	+ 3.54	+ 6.99
Kansas City, Mo.	— 2.71	+ 10.01	+ 0.53	+ 0.31	+ 6.63
St. Joseph	- 3.97	+ 9.38	— 3.19	+ 2.08	+ 12.21
St. Louis	— 3.61	+ 7.50	+ 5.90	+ 0.31	— 4.16
Lincoln	+ 2.98	+ 10.78	— 11.95	+ 10.21	+ 1.00
Omaha	- 11.97	+ 20.95	— 1.23	— 1.82	+ 1.74
Kansas City, Kansas	- 12.76	+ 6.72	— 6.38	+ 9.15	+ 1.40
Topeka	— 6.98	— 2.40	+ 13.07	+ 1.84	+ 2.01
Wichita	+ 3.52	+ 14.65	— 0.89	— 6.34	+ 1.99
Helena	+ 11.89	— 2.78	+ 5.23	— 0.39	+ 2.57
Denver	— 2.67	+ 7.40	— 3.49	+ 4.16	— 0.90
Pueblo	+ 17.74	+ 7.00	+ 0.24	— 16.83	+ 18.91
Muskogee	— 2.97	+ 0.01	— 4.11	+ 10.81	+ 6.30
Oklahoma City	— 3.58	+ 10.18	— 8.40	+ 5.20	— 4.36
Tulsa	— 18.14	+ 6.95	+ 1.64	+ 0.08	— 2.15
Seattle	— 3.60	+ 1.88	— 5.14	+ 0.73	+ 3.12
Spokane	— 3.57	+ 2.92	+ 1.19	+ 1.36	+ 0.85
Portland	+ 2.89	+ 1.42	+ 5.11	— 1.77	— 0.33
Los Angeles	+ 3.99	+ 0.20	— 0.63	+ 2.39	+ 1.85
Oakland	- 0.11	+ 0.92	+ 5.06	— 7.78	+ 8.22
San Francisco	— 9.22	+ 18.64	— 0.34	— 2.47	+ 14.49
Ogden	+ 13.82	— 0.58	— 1.99	— 7.20	+ 4.86
Salt Lake City	+ 3.19	+ 7.88	— 6.14	+ 4.28	— 3.35

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

D. Total Demand Deposits to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 10.10	+ 7.42	+ 3.65	— 0.24	— 2.37
Chicago (Central Reserve)	+ 0.83	+ 2.94	+ 2.24	— 5.51	+ 4.03
Boston	— 8.04	+ 3.99	— 0.82	— 5.01	— 7.18
Albany	— 3.03	+ 5.03	— 2.73	+ 1.65	+ 12.83
Brooklyn and Bronx	+ 0.64	— 2.18	— 2.37	— 8.52	— 3.95
Buffalo	— 26.17	— 1.09	+ 2.73	— 66.82	+ 5.30
Philadelphia	— 2.17	+ 0.23	+ 0.14	— 6.48	— 3.55
Pittsburgh	— 2.00	— 5.91	+ 2.77	+ 0.17	— 3.03
Baltimore	— 10.42	+ 5.62	— 7.34	+ 5.74	— 7.99
Washington	— 11.34	+ 8.29	— 1.22	+ 7.46	— 6.14
Richmond	— 4.79	+ 11.59	— 1.50	+ 6.51	— 1.72
Atlanta	— 6.70	+ 11.79	+ 1.42	— 5.22	— 8.57
Jacksonville	— 12.45	+ 14.07	— 1.72	+ 26.01	— 29.60
Birmingham	+ 12.97	— 1.01	— 0.45	+ 0.13	+ 4.09
New Orleans	— 9.59	+ 11.90	— 9.74	— 9.40	+ 5.56
Dallas	— 8.15	— 7.51	+ 1.17	+ 3.08	— 10.81
El Paso	+ 1.84	+ 21.93	+ 5.63	— 5.61	+ 1.34
Fort Worth	— 7.31	— 6.88	+ 7.22	+ 1.94	— 0.50
Galveston	— 3.35	— 17.31	— 15.54	+ 31.06	— 5.93
Houston	— 6.76	+ 3.38	+ 4.78	+ 1.26	— 3.65
San Antonio	— 10.41	+ 11.71	+ 7.50	— 4.12	— 4.05
Waco	— 3.89	— 3.71	+ 4.20	— 6.23	+ 1.04
Little Rock	+ 7.05	+ 29.89	— 14.28	— 16.02	+ 9.77
Louisville	— 9.08	+ 17.19	+ 4.06	+ 4.49	— 12.95
Memphis	— 11.26	— 3.38	— 6.65	+ 12.56	— 4.86
Nashville	— 8.63	— 4.96	— 1.93	— 2.01	+ 3.66
Cincinnati	— 6.02	+ 11.06	— 9.04	+ 3.87	+ 9.02
Cleveland	— 5.60	— 2.75	— 15.92	+ 6.94	— 2.16
Columbus	— 11.70	+ 2.06	— 4.66	+ 0.12	+ 3.53
Toledo	— 9.66	— 9.49	— 11.60	— 27.66	+ 7.18
Indianapolis	— 4.78	+ 7.56	+ 0.72	— 4.74	+ 2.15
Chicago	— 1.25	+ 3.65	+ 10.97	+ 1.17	— 11.70
Peoria	+ 0.30	+ 8.28	— 7.94	+ 10.92	+ 0.78
Detroit	— 5.77	+ 6.51	— 16.98	— 0.58	+ 0.26
Grand Rapids	+ 7.59	— 0.78	+ 12.06	+ 4.91	— 11.72
Milwaukee	— 6.06	+ 13.94	+ 1.70	— 3.96	— 4.93
Minneapolis	— 4.43	+ 4.80	— 1.41	— 7.01	— 3.11
St. Paul	+ 5.86	+ 21.43	— 15.46	— 2.64	+ 0.15
Cedar Rapids	— 20.81	+ 17.48	— 7.10	+ 13.07	+ 10.76
Des Moines	— 10.76	+ 14.64	— 5.03	+ 15.77	+ 10.93
Dubuque	— 13.30	+ 13.02	— 12.32	— 3.13	+ 5.30
Sioux City	— 10.97	+ 14.98	— 4.61	+ 5.08	+ 11.52
Kansas City, Mo.	— 2.97	+ 10.29	+ 0.48	— 0.94	+ 2.07
St. Joseph	— 5.89	+ 3.94	— 5.38	+ 10.85	+ 16.45
St. Louis	— 8.40	+ 5.97	+ 4.41	+ 2.00	— 8.49
Lincoln	— 20.61	+ 14.70	— 11.13	+ 9.40	+ 0.84
Omaha	— 15.89	+ 22.30	+ 2.38	— 5.27	+ 0.54
Kansas City, Kansas	— 14.38	+ 4.98	— 5.99	+ 10.02	— 12.90
Topeka	— 7.74	— 3.04	+ 6.75	+ 1.91	+ 1.45
Wichita	+ 14.40	+ 21.65	— 0.24	— 7.12	+ 0.96
Helena	+ 11.89	+ 1.80	+ 2.28	— 2.68	+ 1.87
Denver	— 1.87	+ 3.04	+ 3.34	+ 7.68	— 2.94
Pueblo	+ 10.26	+ 4.10	— 0.74	— 26.14	+ 24.22
Muskogee	— 13.19	+ 1.09	— 9.24	+ 32.50	+ 10.12
Oklahoma City	— 5.03	+ 7.12	— 8.58	+ 12.71	— 10.34
Tulsa	— 17.44	+ 6.63	+ 1.68	— 6.98	+ 0.97
Seattle	— 5.78	— 1.22	— 5.70	+ 1.00	+ 5.86
Spokane	— 7.58	— 7.18	— 3.20	+ 5.66	+ 1.10
Portland	— 1.21	— 5.97	+ 0.83	— 2.99	— 3.24
Los Angeles	+ 8.00	— 5.85	— 7.76	— 11.28	— 14.01
Oakland	— 3.54	— 3.67	+ 17.35	— 10.84	+ 3.01
San Francisco	— 9.17	+ 9.97	— 1.43	+ 3.40	— 42.02
Ogden	+ 40.02	+ 0.32	— 7.54	— 9.10	+ 9.89
Salt Lake City	— 3.88	+ 8.71	— 6.37	+ 6.22	— 3.41

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

E. Total Demand Deposits to Total Deposits

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 1.32	+ 1.32	— 1.54	+ 0.30	— 3.43
Chicago (Central Reserve)	— 1.51	— 1.07	— 3.59	— 1.38	— 1.89
Boston	— 6.68	— 3.55	— 4.65	— 2.48	— 5.38
Albany	— 0.15	+ 1.41	— 3.89	+ 0.79	+ 4.76
Brooklyn and Bronx	— 2.70	— 3.37	— 3.15	— 5.92	— 2.92
Buffalo	— 22.59	— 7.27	+ 0.65	— 59.55	+ 4.77
Philadelphia	— 3.45	— 4.44	— 3.61	— 5.43	— 2.84
Pittsburgh	— 1.00	— 8.02	— 1.90	— 1.05	— 1.81
Baltimore	— 3.44	— 3.49	— 9.64	+ 5.48	— 6.71
Washington	— 5.03	— 0.21	— 1.49	+ 3.81	— 4.84
Richmond	— 4.27	+ 2.46	— 1.66	+ 2.74	— 3.61
Atlanta	— 6.13	+ 2.04	+ 2.69	— 2.83	— 6.81
Jacksonville	— 7.64	+ 7.47	+ 8.15	+ 7.58	— 21.65
Birmingham	+ 4.24	— 5.33	+ 7.57	— 1.37	+ 4.31
New Orleans	— 5.77	— 3.45	+ 0.28	+ 0.35	— 1.12
Dallas	— 7.37	— 3.81	+ 0.84	+ 2.99	— 2.79
El Paso	+ 2.58	— 1.21	+ 10.34	— 1.80	+ 3.07
Fort Worth	+ 0.16	— 5.21	+ 3.45	+ 1.19	— 2.09
Galveston	— 3.02	— 15.22	+ 0.14	+ 12.84	— 3.00
Houston	— 3.57	— 2.50	+ 1.60	— 2.15	— 0.67
San Antonio	— 9.10	— 0.25	— 3.46	— 2.86	— 2.58
Waco	— 6.60	— 5.89	+ 0.87	— 6.79	— 4.40
Little Rock	+ 18.94	— 0.60	— 7.91	— 0.85	— 7.70
Louisville	— 1.24	— 4.88	+ 0.74	+ 6.48	— 10.99
Memphis	— 3.04	— 6.05	— 8.30	+ 3.19	— 0.66
Nashville	— 4.17	— 2.26	— 5.62	— 6.00	— 6.56
Cincinnati	— 3.66	— 4.02	— 6.76	+ 1.28	— 3.30
Cleveland	— 9.78	— 4.70	— 16.75	+ 2.36	— 1.69
Columbus	— 1.06	— 6.42	— 6.35	+ 2.30	+ 1.87
Toledo	— 0.92	— 22.72	— 6.28	— 21.82	— 7.10
Indianapolis	+ 1.42	— 2.36	— 1.03	— 5.88	— 5.04
Chicago	— 2.41	+ 1.98	+ 8.44	+ 2.63	— 6.97
Peoria	+ 3.23	+ 2.45	— 4.86	+ 3.96	— 0.71
Detroit	— 0.83	— 0.93	— 11.55	+ 0.04	— 0.42
Grand Rapids	+ 2.25	— 3.30	+ 5.63	— 0.52	— 4.80
Milwaukee	+ 0.58	+ 1.09	+ 0.88	+ 0.07	— 3.59
Minneapolis	— 12.61	— 4.24	+ 1.74	— 4.81	— 5.94
St. Paul	+ 11.22	+ 2.97	— 10.17	— 5.41	— 7.14
Cedar Rapids	— 3.17	— 4.65	— 4.53	+ 9.19	— 6.42
Des Moines	— 0.41	— 3.26	+ 0.78	+ 1.67	+ 3.00
Dubuque	— 23.51	+ 5.83	— 5.15	— 4.58	— 0.79
Sioux City	— 9.05	+ 1.59	+ 0.92	+ 1.48	+ 4.25
Kansas City, Mo.	— 0.26	+ 0.24	— 0.03	— 1.25	— 4.28
St. Joseph	— 2.00	— 4.98	— 2.23	+ 8.57	+ 3.80
St. Louis	— 4.96	— 1.43	— 1.39	+ 1.68	— 4.51
Lincoln	— 22.93	+ 3.52	+ 0.93	+ 1.93	— 0.15
Omaha	— 4.54	+ 1.13	+ 3.66	— 3.53	— 1.17
Kansas City, Kansas	— 1.73	— 1.70	+ 0.41	+ 0.80	— 14.10
Topeka	— 0.83	— 0.63	— 5.60	+ 0.08	— 0.56
Wichita	+ 2.99	+ 6.10	+ 0.66	— 0.84	— 1.00
Helena	— 0.02	+ 4.73	— 2.81	— 2.30	— 0.69
Denver	— 2.63	— 3.91	+ 6.90	+ 3.39	— 2.05
Pueblo	— 6.35	— 2.71	— 0.97	— 11.19	+ 4.45
Muskogee	— 10.52	+ 1.09	— 5.25	+ 19.58	+ 3.59
Oklahoma City	— 1.49	— 2.77	— 0.19	+ 7.14	— 6.25
Tulsa	+ 0.86	— 0.30	+ 0.05	— 7.06	+ 3.21
Seattle	— 2.26	— 3.05	— 0.57	+ 0.28	— 6.64
Spokane	— 4.19	— 9.81	— 4.34	+ 4.22	+ 0.25
Portland	— 3.97	— 7.29	— 4.07	— 1.26	— 2.90
Los Angeles	+ 3.86	— 6.05	— 7.17	— 13.36	— 15.56
Oakland	— 3.44	— 4.55	+ 11.69	— 3.32	— 4.74
San Francisco	+ 0.04	— 7.30	— 1.08	+ 5.98	— 49.36
Ogden	+ 23.00	+ 0.91	— 5.67	— 2.06	+ 4.82
Salt Lake City	— 6.86	+ 0.77	— 0.25	+ 1.86	— 0.07

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

F. Total Time Deposits to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	± 0.00	— 2.66	+ 17.52	— 2.42	+ 24.36
Chicago (Central Reserve)	+ 29.87	+ 20.33	+ 52.22	+ 6.61	+ 20.50
Boston	+ 51.15	+ 26.43	+ 23.38	+ 5.17	+ 13.37
Albany	— 2.10	— 4.42	+ 25.02	— 2.89	— 17.57
Brooklyn and Bronx	+ 76.80	+ 52.48	+ 31.40	+ 38.32	+ 12.54
Buffalo	+102.93	+ 20.78	+ 1.06	+ 53.91	— 0.98
Philadelphia	+ 63.52	+ 54.91	+ 29.71	+ 27.48	+ 10.29
Pittsburgh	+ 5.78	+ 54.84	+ 12.52	+ 5.03	+ 4.79
Baltimore	+ 11.57	+ 27.55	+ 41.42	— 13.84	+ 19.45
Washington	+ 5.08	+ 8.93	+ 3.43	— 4.39	+ 9.34
Richmond	+ 7.20	+ 4.58	+ 3.04	— 1.04	+ 8.55
Atlanta	+ 12.24	+ 5.61	— 6.15	+ 3.13	+ 10.45
Jacksonville	+ 1.59	— 0.28	— 15.96	+ 7.47	+ 14.58
Birmingham	+ 3.04	+ 11.70	— 15.41	+ 3.36	— 5.78
New Orleans	+164.68	+ 57.58	— 11.85	— 12.13	+ 16.00
Dallas	+ 53.57	+ 12.48	— 2.72	— 11.34	+ 3.15
El Paso	— 4.40	+ 25.72	— 18.98	— 0.48	— 7.28
Fort Worth	— 8.09	+ 18.08	— 7.27	— 3.48	+ 9.49
Galveston	+ 1.76	+ 7.81	— 15.73	+ 8.28	— 1.17
Houston	+ 5.98	+ 12.33	— 0.43	+ 8.52	— 1.58
San Antonio	+ 44.01	+ 12.82	+ 23.40	+ 6.41	+ 4.82
Waco	+ 21.16	+ 17.33	+ 1.47	+ 14.78	+ 13.63
Little Rock	— 35.90	+ 32.64	+ 11.40	— 13.90	+ 36.02
Louisville	— 5.86	+ 33.84	+ 2.18	— 11.96	+ 17.92
Memphis	— 2.94	+ 14.11	+ 14.79	+ 4.79	+ 11.95
Nashville	+ 3.83	+ 1.48	+ 14.27	+ 11.32	+ 20.46
Cincinnati	+ 15.29	+ 34.47	+ 19.67	— 0.89	+ 13.69
Cleveland	+ 20.98	+ 8.04	+ 20.04	+ 2.54	+ 0.89
Columbus	— 4.04	+ 56.46	+ 30.21	— 9.94	— 5.17
Toledo	— 6.70	+ 35.80	+ 1.48	+ 16.36	+ 20.89
Indianapolis	— 20.41	+ 43.34	+ 11.93	+ 53.41	+ 37.08
Chicago	+ 2.52	+ 0.59	— 2.30	— 3.05	— 0.86
Peoria	— 6.69	+ 2.24	+ 3.41	+ 1.36	+ 2.47
Detroit	— 0.28	+ 13.12	+ 51.60	— 0.69	+ 1.92
Grand Rapids	+ 2.87	+ 6.12	+ 0.29	+ 6.02	— 2.49
Milwaukee	— 7.76	+ 10.26	— 1.12	— 4.14	+ 6.28
Minneapolis	+ 57.38	+ 19.30	— 6.19	+ 6.81	+ 13.44
St. Paul	— 28.39	+ 6.83	+ 27.97	+ 15.98	+ 22.95
Cedar Rapids	— 15.14	+ 29.46	+ 1.73	— 5.17	+ 26.70
Des Moines	— 10.88	+ 33.36	— 8.24	+ 7.38	— 4.27
Dubuque	+ 42.05	+ 2.67	— 4.13	+ 4.56	+ 6.68
Sioux City	+ 10.52	+ 11.17	— 6.52	+ 1.67	+ 1.29
Kansas City, Mo.	+ 0.41	+ 6.75	+ 1.15	+ 15.15	+ 53.45
St. Joseph	— 1.53	+ 15.98	— 0.82	— 7.01	+ 6.96
St. Louis	+ 12.04	+ 11.59	+ 9.68	— 3.77	+ 6.90
Lincoln	+333.06	+ 0.75	— 14.36	+ 12.67	+ 1.45
Omaha	+ 6.29	+ 15.98	— 15.25	+ 14.38	+ 6.37
Kansas City, Kansas	— 5.57	+ 14.65	— 7.93	+ 5.59	+ 62.30
Topeka	+ 12.75	+ 11.06	+130.09	+ 1.18	+ 6.90
Wichita	— 15.28	— 1.68	— 2.77	— 3.99	+ 4.94
Helena	+ 11.88	— 11.12	+ 11.38	+ 3.99	+ 3.84
Denver	+ 2.39	+ 13.12	— 11.66	— 0.79	+ 2.21
Pueblo	+ 42.57	+ 14.44	+ 2.53	+ 4.21	+ 10.41
Muskogee	+ 15.68	— 1.47	+ 2.96	— 16.11	— 1.20
Oklahoma City	± 0.00	+ 17.32	— 8.01	— 10.72	+ 11.64
Tulsa	— 20.67	+ 8.14	+ 1.48	+ 26.23	— 10.73
Seattle	+ 1.06	+ 8.08	— 4.11	+ 0.23	— 1.85
Spokane	+ 1.27	+ 14.06	+ 5.16	— 2.19	+ 0.63
Portland	+ 9.15	+ 11.64	+ 10.10	— 0.46	+ 2.68
Los Angeles	— 5.93	+ 17.36	+ 15.60	+ 27.16	+ 21.93
Oakland	+ 14.13	+ 16.99	— 30.35	+ 7.13	+ 28.92
San Francisco	— 9.41	+ 53.38	+ 2.79	— 18.61	+212.18
Ogden	— 26.54	— 3.22	+ 14.91	— 2.55	— 6.62
Salt Lake City	+ 22.74	+ 6.09	— 5.63	— 0.04	— 3.20

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

G. Total Time Deposits to Total Deposits

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	+ 9.81	— 8.86	+ 11.50	— 1.97	+ 23.12
Chicago (Central Reserve)	+ 27.50	+ 15.08	+ 43.51	+ 11.23	+ 13.63
Boston	+ 53.37	+ 17.22	+ 19.59	+ 7.06	+ 15.61
Albany	+ 0.85	— 7.73	+ 23.52	— 3.71	— 23.45
Brooklyn and Bronx	+ 71.04	+ 50.48	+ 30.25	+ 42.30	+ 13.80
Buffalo	+112.69	+ 13.20	— 0.97	+ 90.01	— 1.53
Philadelphia	+ 61.47	+ 47.26	+ 24.90	+ 28.92	+ 11.09
Pittsburgh	+ 6.88	+ 51.33	+ 7.38	+ 3.73	+ 6.14
Baltimore	+ 20.30	+ 16.53	+ 37.83	— 14.12	+ 21.22
Washington	+ 12.54	+ 0.43	+ 3.12	— 7.61	+ 10.87
Richmond	+ 7.80	— 3.98	+ 2.87	— 4.54	+ 6.42
Atlanta	+ 12.96	— 3.59	— 5.01	+ 5.69	+ 12.59
Jacksonville	+ 7.17	— 6.04	— 7.55	— 8.21	+ 27.48
Birmingham	— 4.94	+ 6.81	— 8.57	+ 1.82	— 5.56
New Orleans	+175.79	+ 35.92	— 2.10	— 2.66	+ 8.71
Dallas	+ 54.95	+ 16.97	— 3.08	— 11.41	+ 12.38
El Paso	— 3.71	+ 1.85	— 15.37	+ 3.50	— 5.65
Fort Worth	— 0.63	+ 20.16	— 10.53	— 4.21	+ 7.80
Galveston	+ 2.19	+ 10.46	— 0.08	— 6.79	+ 1.92
Houston	+ 9.68	+ 5.95	— 3.51	+ 4.89	+ 1.45
San Antonio	+ 46.00	+ 0.79	+ 10.78	+ 7.76	+ 6.31
Waco	+ 21.15	+ 14.54	— 1.76	+ 14.16	+ 7.48
Little Rock	— 28.75	+ 1.52	+ 19.63	+ 1.63	+ 14.31
Louisville	+ 2.27	+ 8.65	— 1.15	— 10.25	+ 20.63
Memphis	+ 6.03	+ 10.98	+ 12.76	— 3.98	+ 0.89
Nashville	+ 9.02	+ 4.29	+ 10.02	+ 9.18	+ 8.64
Cincinnati	+ 18.18	+ 16.24	+ 22.56	— 3.26	+ 8.78
Cleveland	+ 15.65	+ 5.87	+ 18.81	— 1.86	+ 1.38
Columbus	+ 7.74	+ 43.20	+ 27.90	— 7.89	— 6.69
Toledo	+ 2.32	+ 55.40	+ 7.61	+ 23.05	+ 4.76
Indianapolis	— 15.40	+ 30.25	+ 10.00	+ 51.61	+ 27.47
Chicago	+ 1.31	— 1.04	— 4.56	— 1.61	+ 4.46
Peoria	— 4.02	— 3.27	+ 6.89	— 5.00	+ 0.98
Detroit	+ 4.96	+ 5.26	+ 61.44	— 0.12	+ 1.22
Grand Rapids	— 2.23	+ 3.42	— 5.45	+ 0.56	+ 5.13
Milwaukee	— 1.17	— 2.22	— 1.87	— 0.16	+ 7.83
Minneapolis	+ 43.95	+ 8.97	— 3.23	+ 9.39	+ 10.10
St. Paul	— 23.93	— 9.27	+ 36.00	+ 12.65	+ 14.01
Cedar Rapids	+ 3.76	+ 5.14	+ 4.55	— 8.41	+ 7.01
Des Moines	+ 1.63	+ 12.60	— 2.59	— 5.72	— 11.11
Dubuque	+ 25.23	— 3.82	+ 3.72	+ 3.02	+ 0.48
Sioux City	+ 12.96	— 1.83	— 1.10	— 1.80	— 5.35
Kansas City, Mo.	+ 3.13	— 2.78	+ 0.39	+ 14.88	+ 43.92
St. Joseph	+ 2.54	+ 6.04	+ 2.42	— 8.88	— 4.69
St. Louis	+ 16.21	+ 3.82	+ 3.54	— 4.06	+ 11.53
Lincoln	+321.32	— 9.02	— 2.70	+ 2.21	+ 0.43
Omaha	+ 20.88	— 4.17	— 14.22	+ 16.57	+ 4.54
Kansas City, Kansas	+ 8.33	+ 7.42	— 1.65	— 3.26	+ 60.07
Topeka	+ 21.51	+ 13.27	+103.71	— 0.67	+ 4.83
Wichita	— 18.17	— 14.23	— 1.90	+ 2.50	+ 2.86
Helena	+ 0.03	— 8.60	+ 5.86	+ 4.40	+ 1.23
Denver	+ 5.21	+ 5.14	— 8.30	— 4.76	+ 3.13
Pueblo	+ 21.06	+ 6.95	+ 2.27	+ 25.29	— 7.13
Muskogee	+ 19.21	— 1.49	+ 7.39	— 24.29	— 7.04
Oklahoma City	+ 3.67	+ 6.51	+ 0.41	— 15.14	+ 16.73
Tulsa	— 3.08	+ 1.14	— 0.19	+ 26.14	— 8.76
Seattle	+ 4.84	+ 6.09	+ 1.05	— 0.50	+ 12.03
Spokane	+ 5.06	+ 10.80	+ 3.89	— 3.49	— 0.23
Portland	+ 6.07	+ 10.08	+ 4.74	+ 1.34	+ 3.02
Los Angeles	— 9.54	+ 17.14	+ 16.30	+ 24.23	+ 19.69
Oakland	+ 14.26	+ 15.95	— 33.72	+ 16.12	+ 19.18
San Francisco	— 0.15	+ 29.21	+ 3.10	— 16.49	+172.57
Ogden	— 35.45	— 2.68	+ 17.27	+ 5.04	— 11.00
Salt Lake City	+ 18.97	— 1.68	+ 0.55	— 4.10	+ 0.17

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

H. Total Gross Earnings to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 2.04	— 11.56	+ 1.63	+ 3.39	+ 0.69
Chicago (Central Reserve)	— 17.33	+ 0.36	— 13.10	+ 6.31	— 1.53
Boston	— 26.98	+ 20.00	+ 5.62	— 10.63	+ 8.83
Albany	— 0.66	— 7.77	— 7.10	— 0.58	— 5.40
Brooklyn and Bronx	— 5.47	— 8.86	+ 6.92	— 2.80	— 9.17
Buffalo	— 11.14	+ 10.34	— 12.75	+ 3.87	+ 3.73
Philadelphia	— 10.14	+ 1.76	— 6.58	+ 6.86	— 1.39
Pittsburgh	— 5.97	— 9.36	+ 10.16	— 5.40	+ 1.85
Baltimore	— 9.16	+ 8.20	— 15.16	+ 16.76	— 1.59
Washington	— 5.02	+ 9.03	— 5.62	+ 2.48	— 2.59
Richmond	— 5.16	+ 7.36	— 8.94	+ 17.02	— 17.62
Atlanta	+ 10.79	— 17.37	+ 15.76	— 8.80	— 5.28
Jacksonville	— 1.03	— 1.78	— 18.28	+ 39.18	— 8.10
Birmingham	— 0.44	+ 3.86	— 7.00	+ 5.07	± 0.00
New Orleans	— 5.25	+ 17.68	— 16.37	+ 0.80	+ 6.12
Dallas	+ 10.08	+ 0.97	— 17.99	+ 23.11	— 12.92
El Paso	— 6.50	+ 12.16	— 23.36	+ 5.75	+ 0.44
Fort Worth	— 21.05	+ 19.39	— 15.99	— 4.68	+ 12.84
Galveston	— 9.00	— 23.87	+ 19.29	+ 7.00	— 12.21
Houston	— 0.43	+ 6.56	— 13.12	+ 4.93	— 4.84
San Antonio	— 1.14	+ 4.63	— 1.96	+ 7.02	— 21.90
Waco	— 0.97	+ 2.68	— 18.65	+ 7.44	— 4.89
Little Rock	— 38.58	+ 25.99	— 10.44	+ 1.17	+ 2.45
Louisville	— 10.00	+ 9.44	— 0.17	— 1.02	— 4.79
Memphis	— 21.53	+ 1.81	— 3.56	+ 16.31	— 22.32
Nashville	— 11.27	— 6.77	— 5.33	+ 10.33	— 6.24
Cincinnati	— 10.12	+ 7.39	— 6.57	+ 5.02	+ 37.32
Cleveland	— 10.46	+ 4.47	+ 0.99	— 5.05	+ 12.35
Columbus	— 0.61	+ 8.32	+ 1.56	— 8.96	— 4.46
Toledo	— 10.33	+ 61.06	— 41.97	— 8.17	+ 16.33
Indianapolis	— 9.19	+ 3.26	+ 24.91	— 33.51	+ 26.60
Chicago	— 7.99	+ 1.60	+ 1.40	— 0.34	+ 9.50
Peoria	— 7.64	— 1.98	— 4.59	+ 10.80	— 2.43
Detroit	+ 2.68	+ 3.42	— 24.88	+ 14.68	+ 15.54
Grand Rapids	— 5.04	+ 7.49	+ 1.74	+ 8.42	— 4.87
Milwaukee	— 27.26	— 0.35	— 3.12	— 1.61	+ 0.73
Minneapolis	— 21.86	+ 17.47	— 16.08	+ 0.36	+ 1.98
St. Paul	— 11.04	— 11.35	— 3.92	+ 1.60	+ 6.64
Cedar Rapids	— 37.94	+ 13.08	— 4.23	+ 2.38	— 8.80
Des Moines	— 29.21	+ 24.16	— 15.62	+ 6.06	— 12.06
Dubuque	— 14.09	+ 5.88	— 8.75	+ 0.37	— 2.02
Sioux City	— 17.59	+ 14.48	— 20.47	— 2.96	+ 0.84
Kansas City, Mo.	— 10.04	+ 1.64	— 7.47	+ 1.58	— 4.05
St. Joseph	— 10.41	+ 0.30	— 5.94	+ 0.16	+ 0.32
St. Louis	— 8.71	+ 0.32	— 6.84	— 8.42	+ 9.20
Lincoln	— 23.08	+ 25.52	— 11.81	+ 8.14	— 1.41
Omaha	— 13.31	+ 16.27	— 20.99	+ 14.49	— 2.67
Kansas City, Kansas	— 14.60	+ 2.31	— 7.23	— 10.06	— 0.36
Topeka	— 11.28	+ 5.51	— 42.09	+ 59.90	+ 3.45
Wichita	+ 2.90	+ 18.05	— 16.01	± 0.00	— 3.41
Helena	— 10.35	— 2.04	— 7.21	+ 1.94	— 6.30
Denver	— 8.46	+ 21.68	— 16.02	+ 6.74	+ 5.08
Pueblo	— 6.90	— 6.04	+ 0.44	+ 6.69	— 10.35
Muskogee	— 10.91	+ 5.01	— 3.76	— 14.08	+ 3.79
Oklahoma City	+ 2.54	+ 4.21	— 4.75	— 16.71	— 6.59
Tulsa	+ 1.42	+ 8.53	— 12.89	— 10.65	+ 21.85
Seattle	— 1.13	— 3.28	— 2.80	+ 2.12	+ 5.79
Spokane	— 17.79	+ 4.36	— 4.64	+ 6.49	+ 3.20
Portland	— 8.27	+ 6.76	+ 1.62	— 3.83	+ 1.50
Los Angeles	— 8.44	+ 12.35	— 9.91	+ 7.22	+ 1.12
Oakland	— 5.09	+ 5.03	— 18.37	+ 16.63	+ 2.18
San Francisco	— 18.19	+ 10.02	— 6.48	+ 7.59	— 40.64
Ogden	— 20.25	— 2.61	+ 4.07	— 0.41	— 19.21
Salt Lake City	— 26.68	— 0.78	— 3.92	+ 3.59	+ 1.89

TABLE 223—(*Continued*)

Percentage Year-to-Year Changes in Ratios for National Banks, by Cities, 1922–1927

I. Total Expenses Paid to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	+ 1.03	— 10.66	+ 3.13	+ 1.93	± 0.00
Chicago (Central Reserve)	— 3.29	— 2.19	— 7.96	+ 1.35	— 0.80
Boston	— 20.00	+ 19.58	— 3.27	— 3.65	+ 6.22
Albany	+ 0.51	— 3.28	— 7.05	— 1.97	— 0.29
Brooklyn and Bronx	— 2.31	+ 1.05	+ 2.08	— 2.30	+ 8.88
Buffalo	—18.10	+ 21.87	— 19.35	+ 20.50	— 0.41
Philadelphia	— 3.93	+ 3.00	— 0.53	— 2.39	+ 4.36
Pittsburgh	— 8.91	+ 0.24	+ 5.85	± 0.00	± 0.00
Baltimore	— 9.16	+ 10.08	— 8.17	+ 14.56	— 0.94
Washington	— 2.14	+ 10.19	— 9.69	— 0.24	+ 3.67
Richmond	— 1.11	+ 2.70	+ 0.44	+ 7.86	— 17.37
Atlanta	+ 16.02	— 19.13	+ 0.41	+ 1.43	— 8.28
Jacksonville	— 4.61	+ 0.20	— 22.09	+ 44.33	— 2.68
Birmingham	— 25.00	+ 42.50	— 13.06	— 2.91	+ 13.39
New Orleans	— 12.41	+ 16.57	— 17.81	— 0.63	+ 11.32
Dallas	+ 20.18	— 7.92	— 19.67	+ 20.15	— 8.49
El Paso	— 0.78	+ 8.48	— 25.69	— 1.17	+ 0.39
Fort Worth	— 24.71	+ 24.72	— 9.35	— 12.84	+ 14.06
Galveston	— 5.25	— 34.36	+ 24.32	+ 10.58	— 14.08
Houston	+ 1.40	+ 14.20	— 15.54	+ 1.43	— 1.81
San Antonio	— 3.03	+ 16.02	— 5.39	— 6.94	— 10.33
Waco	— 2.37	— 1.39	— 18.13	+ 10.97	— 2.13
Little Rock	— 38.90	+ 29.16	— 8.11	+ 4.15	+ 8.14
Louisville	— 11.82	+ 13.41	± 0.00	— 0.99	— 4.73
Memphis	— 14.33	+ 2.79	— 6.33	+ 9.65	— 4.93
Nashville	— 15.41	+ 10.71	— 6.79	+ 16.56	— 8.52
Cincinnati	+ 1.81	+ 12.69	— 6.76	+ 8.70	+ 35.11
Cleveland	+ 4.09	+ 3.31	— 3.20	— 1.03	+ 11.90
Columbus	— 1.78	+ 19.91	— 4.72	— 7.33	— 0.85
Toledo	— 12.70	+ 48.73	— 34.47	— 1.66	+ 0.96
Indianapolis	— 4.74	+ 1.00	— 2.71	— 15.19	+ 15.52
Chicago	— 6.79	+ 2.05	+ 1.79	+ 1.32	+ 5.84
Peoria	— 2.53	— 4.61	+ 2.72	+ 7.94	— 0.82
Detroit	+ 4.57	+ 3.06	— 22.88	+ 15.66	+ 11.16
Grand Rapids	— 5.27	+ 7.84	— 5.74	+ 10.14	+ 8.66
Milwaukee	— 21.10	— 4.70	+ 6.75	— 5.84	+ 2.58
Minneapolis	— 0.94	+ 3.23	— 23.02	+ 2.87	— 0.47
St. Paul	— 2.94	— 8.21	— 1.18	— 6.19	+ 10.66
Cedar Rapids	— 34.46	+ 18.78	— 4.74	+ 4.56	— 13.89
Des Moines	— 22.73	+ 55.06	— 27.16	— 4.17	— 3.48
Dubuque	— 22.55	+ 21.77	— 8.32	— 3.40	+ 1.41
Sioux City	— 14.46	+ 20.36	— 22.36	— 0.78	+ 0.39
Kansas City, Mo.	— 10.92	+ 2.77	— 6.15	— 1.43	+ 0.42
St. Joseph	— 6.83	+ 5.58	— 8.26	— 6.13	+ 2.30
St. Louis	— 2.52	+ 2.58	— 10.76	— 3.85	+ 19.47
Lincoln	— 23.46	+ 35.43	— 14.66	+ 5.22	— 4.34
Omaha	— 10.69	+ 18.34	— 22.19	+ 2.94	+ 6.11
Kansas City, Kansas	— 8.05	+ 5.00	— 9.13	— 5.90	— 5.80
Topeka	— 6.88	+ 3.29	— 35.19	+ 53.68	— 1.80
Wichita	+ 10.16	+ 21.63	— 20.99	+ 1.48	— 10.36
Helena	— 2.70	— 5.19	+ 2.15	— 8.22	+ 1.25
Denver	— 0.62	— 0.83	— 2.30	+ 2.36	+ 0.42
Pueblo	— 5.36	+ 5.90	+ 9.13	+ 7.96	— 3.78
Muskogee	— 9.16	+ 4.87	— 6.97	— 15.33	— 1.47
Oklahoma City	+ 3.92	+ 1.64	— 8.06	— 8.07	— 14.31
Tulsa	— 6.61	+ 17.60	— 14.97	— 16.33	+ 4.34
Seattle	— 2.14	+ 0.40	— 3.56	+ 2.67	+ 5.60
Spokane	— 12.88	+ 12.61	— 4.44	± 0.00	+ 8.48
Portland	— 9.25	+ 6.64	+ 4.22	— 0.64	— 4.94
Los Angeles	— 4.42	+ 13.63	— 4.28	+ 5.59	+ 4.24
Oakland	— 7.29	+ 3.44	— 14.73	+ 19.50	+ 6.53
San Francisco	— 13.95	+ 14.21	— 4.15	+ 10.93	— 43.53
Ogden	— 21.18	+ 6.53	+ 1.05	— 4.33	— 13.77
Salt Lake City	— 25.60	+ 1.08	± 0.00	— 1.49	— 0.65

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

J. Total Expenses Paid to Gross Earnings

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	+ 2.95	+ 1.08	+ 1.52	— 1.33	— 0.94
Chicago (Central Reserve)	+ 16.84	— 2.58	+ 5.88	— 4.71	+ 0.72
Boston	+ 9.59	— 0.39	— 8.37	+ 7.68	— 2.20
Albany	+ 1.13	+ 4.91	— 0.45	— 1.27	+ 5.25
Brooklyn and Bronx	+ 51.78	+ 10.80	— 4.42	+ 0.61	+ 19.63
Buffalo	— 7.64	+ 10.27	— 7.60	+ 16.20	— 4.18
Philadelphia	+ 7.02	+ 1.19	+ 6.49	— 8.77	+ 5.83
Pittsburgh	— 3.06	+ 10.52	— 3.76	+ 5.76	— 1.90
Baltimore	— 0.10	+ 1.70	+ 8.32	— 2.04	+ 0.64
Washington	+ 2.92	+ 0.38	— 3.68	— 1.81	+ 5.69
Richmond	+ 4.37	— 4.35	+ 10.44	— 7.80	+ 0.45
Atlanta	+ 4.63	— 2.12	— 13.25	+ 11.38	— 3.21
Jacksonville	— 3.54	+ 1.99	— 4.60	+ 3.54	+ 5.89
Birmingham	— 24.64	+ 37.23	— 6.66	— 7.58	+ 13.36
New Orleans	— 7.64	— 0.92	— 1.71	— 1.52	+ 5.03
Dallas	+ 9.26	— 8.86	— 2.06	— 2.35	+ 4.99
El Paso	+ 6.12	— 3.38	— 3.10	— 6.36	— 0.09
Fort Worth	— 4.62	+ 1.88	+ 7.91	— 8.49	— 6.30
Galveston	+ 4.12	— 13.77	+ 4.29	+ 8.24	— 2.14
Houston	+ 1.87	+ 7.16	— 2.81	— 3.32	+ 3.27
San Antonio	— 2.00	+ 10.85	— 3.40	— 13.10	+ 14.80
Waco	— 1.46	— 7.89	+ 0.65	+ 3.10	+ 3.03
Little Rock	— 0.57	+ 2.60	+ 2.58	+ 2.97	+ 5.63
Louisville	— 1.88	+ 3.63	+ 0.03	+ 0.16	+ 0.10
Memphis	+ 9.12	+ 1.03	— 2.95	— 5.68	+ 22.41
Nashville	— 4.76	+ 18.84	— 1.58	+ 5.67	— 2.38
Cincinnati	+ 13.30	+ 5.03	— 0.24	+ 3.47	— 1.57
Cleveland	+ 16.14	— 0.99	— 4.23	+ 4.21	— 0.38
Columbus	— 1.20	+ 10.66	— 6.17	+ 1.98	+ 3.56
Toledo	— 2.74	— 7.58	+ 12.82	+ 7.16	— 13.34
Indianapolis	+ 4.88	— 2.16	— 22.14	+ 27.60	— 8.70
Chicago	+ 1.55	+ 0.22	+ 0.37	+ 1.77	— 3.42
Peoria	+ 5.27	— 2.42	+ 7.46	— 2.71	+ 1.79
Detroit	+ 1.66	— 0.23	+ 2.69	+ 0.88	— 3.72
Grand Rapids	— 0.32	+ 0.37	— 7.30	+ 1.61	+ 14.22
Milwaukee	+ 8.41	— 4.30	+ 10.22	— 4.35	+ 1.85
Minneapolis	+ 26.85	— 12.19	— 8.18	+ 2.31	— 2.30
St. Paul	+ 9.14	+ 3.44	+ 2.87	— 7.52	+ 3.64
Cedar Rapids	+ 5.49	+ 5.23	— 0.58	+ 2.23	— 5.81
Des Moines	+ 5.81	+ 24.92	— 13.71	— 9.91	+ 10.01
Dubuque	— 9.87	+ 14.84	+ 0.70	— 3.89	+ 3.51
Sioux City	+ 3.78	+ 5.07	— 2.28	+ 1.76	— 0.58
Kansas City, Mo.	— 1.02	+ 1.21	+ 15.80	— 15.03	+ 4.53
St. Joseph	+ 3.92	+ 5.44	— 2.57	— 6.14	+ 1.91
St. Louis	+ 6.59	— 1.23	— 4.23	+ 5.06	+ 9.45
Lincoln	— 0.49	+ 8.04	— 3.19	— 2.90	— 2.77
Omaha	+ 3.25	+ 1.80	— 1.52	— 10.16	+ 8.96
Kansas City, Kansas	+ 7.63	+ 2.76	— 2.17	+ 4.80	— 5.50
Topeka	+ 4.91	— 1.96	+ 11.63	— 3.69	— 5.09
Wichita	+ 7.17	+ 3.03	— 5.98	+ 1.52	— 7.16
Helena	+ 8.37	— 3.07	+ 9.99	— 9.99	+ 8.10
Denver	+ 8.50	— 18.46	+ 16.47	— 4.20	— 4.33
Pueblo	+ 1.64	+ 12.69	+ 8.79	+ 1.00	+ 7.32
Muskogee	+ 1.94	— 0.04	— 3.37	— 1.57	— 5.01
Oklahoma City	+ 1.41	— 2.58	— 3.42	+ 10.50	— 8.39
Tulsa	— 7.93	+ 8.34	— 2.38	— 6.50	— 14.22
Seattle	— 1.14	+ 3.89	— 0.79	+ 0.45	— 0.18
Spokane	+ 6.02	+ 7.80	+ 0.29	— 6.16	+ 5.14
Portland	— 1.05	— 0.19	+ 2.45	+ 3.39	— 6.23
Los Angeles	+ 4.49	+ 1.16	+ 6.17	— 1.48	+ 3.19
Oakland	— 2.08	— 1.77	+ 4.72	+ 2.20	+ 4.56
San Francisco	+ 5.14	+ 3.73	+ 2.63	+ 2.99	— 4.84
Ogden	— 1.17	+ 3.77	— 2.97	— 4.03	+ 6.80
Salt Lake City	+ 1.42	+ 1.91	+ 4.10	— 4.90	— 2.51

TABLE 223—(*Continued*)

PERCENTAGE YEAR-TO-YEAR CHANGES IN RATIOS FOR NATIONAL BANKS, BY CITIES, 1922–1927

K. Net Earnings, during the year, to Earning Assets

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 6.91	— 13.10	— 1.01	+ 6.09	+ 1.91
Chicago (Central Reserve)	— 40.63	+ 7.24	— 25.77	+ 21.49	— 3.40
Boston	— 40.47	+ 21.09	+ 28.39	— 24.12	+ 15.23
Albany	— 2.79	— 16.27	— 5.71	+ 2.42	— 15.98
Brooklyn and Bronx	— 10.78	— 27.05	+ 19.21	— 3.89	— 49.13
Buffalo	+ 9.58	— 15.30	+ 8.39	— 3.57	+ 22.22
Philadelphia	— 19.68	— 0.50	— 18.09	+ 28.22	— 11.48
Pittsburgh	± 0.00	— 27.15	+ 21.12	— 17.44	+ 6.83
Baltimore	— 9.17	+ 5.05	— 27.51	+ 22.29	— 2.96
Washington	— 11.17	+ 8.57	+ 2.11	+ 8.25	— 14.76
Richmond	— 13.81	+ 18.78	— 28.84	+ 43.79	— 18.18
Atlanta	— 5.36	— 10.69	+ 68.31	— 29.71	+ 3.57
Jacksonville	+ 10.63	— 7.34	— 6.71	+ 26.14	— 23.83
Birmingham	+ 59.39	— 40.45	+ 9.63	+ 22.44	— 23.11
New Orleans	+ 12.72	+ 19.84	— 13.64	+ 3.38	— 2.91
Dallas	— 10.75	+ 25.65	— 14.58	+ 28.78	— 20.83
El Paso	— 30.13	+ 33.94	— 12.33	+ 33.59	+ 0.58
Fort Worth	— 10.60	+ 13.92	— 33.03	+ 23.65	+ 9.84
Galveston	— 27.69	+ 44.68	+ 4.41	— 5.63	— 4.48
Houston	— 4.90	— 13.40	— 4.76	+ 15.63	— 12.97
San Antonio	+ 2.70	— 17.29	+ 7.27	+ 40.25	— 40.18
Waco	+ 2.52	+ 12.30	— 19.71	± 0.00	— 11.36
Little Rock	— 37.31	+ 13.22	— 21.17	— 14.81	— 34.78
Louisville	— 6.19	+ 1.65	— 0.54	— 1.09	— 4.95
Memphis	— 37.28	— 1.11	+ 5.06	+ 34.76	— 61.51
Nashville	— 4.04	— 33.68	— 1.59	— 4.84	+ 0.56
Cincinnati	— 26.91	— 2.99	— 6.15	— 3.28	+ 42.94
Cleveland	— 47.03	+ 1.02	+ 20.37	— 20.00	+ 14.42
Columbus	+ 1.97	— 16.43	+ 20.81	— 12.92	— 13.74
Toledo	— 5.00	+ 86.60	— 54.36	— 23.60	+ 63.24
Indianapolis	— 17.73	+ 8.29	+ 82.14	— 53.78	+ 49.09
Chicago	— 11.97	± 0.00	± 0.00	— 6.40	+ 23.93
Peoria	— 15.04	+ 2.39	— 15.89	+ 16.11	— 5.26
Detroit	— 2.50	+ 4.49	— 30.67	+ 11.50	+ 30.16
Grand Rapids	— 4.29	+ 6.41	+ 25.30	+ 4.33	— 38.71
Milwaukee	— 38.38	+ 9.71	— 22.92	+ 10.14	— 3.68
Minneapolis	— 81.28	+231.43	+ 16.38	— 7.41	+ 10.40
St. Paul	— 25.56	— 18.69	— 11.18	+ 24.48	— 2.25
Cedar Rapids	— 48.00	— 7.69	— 1.85	— 7.55	+ 17.35
Des Moines	— 43.43	— 68.31	+153.33	+ 49.12	— 35.29
Dubuque	+ 9.16	— 37.32	— 26.66	+ 14.91	— 10.00
Sioux City	— 29.41	— 12.50	— 8.57	— 11.46	+ 3.53
Kansas City, Mo.	— 7.26	— 1.81	— 11.66	+ 11.81	— 17.39
St. Joseph	— 26.87	— 30.61	+ 14.71	+ 44.87	— 8.85
St. Louis	— 22.68	+ 8.00	+ 3.70	— 19.05	— 19.12
Lincoln	— 21.97	— 3.70	± 0.00	+ 18.46	+ 7.79
Omaha	— 20.90	+ 8.81	— 16.76	+ 52.78	— 22.27
Kansas City, Kansas	— 28.99	— 5.33	— 1.25	— 22.15	+ 18.70
Topeka	— 22.07	+ 12.05	— 60.75	+ 87.67	+ 22.63
Wichita	— 18.08	+ 4.14	+ 6.62	— 4.97	+ 21.57
Helena	— 26.32	+ 6.63	— 30.14	+ 38.36	— 24.26
Denver	— 31.52	+117.70	— 42.68	+ 21.28	+ 18.13
Pueblo	— 8.96	— 22.62	— 16.10	+ 3.54	— 27.32
Muskogee	— 15.98	+ 5.43	+ 6.19	— 10.68	+ 17.39
Oklahoma City	— 1.49	+ 12.12	+ 4.50	— 37.93	+ 21.53
Tulsa	+ 42.61	— 21.95	— 2.34	+ 14.06	+ 78.32
Seattle	+ 1.65	— 16.63	— 0.58	+ 0.58	+ 6.36
Spokane	— 29.33	— 19.50	— 5.47	+ 33.06	— 13.04
Portland	— 5.49	+ 7.10	— 5.42	— 13.38	+ 23.53
Los Angeles	— 17.17	+ 9.15	— 24.58	+ 12.59	— 8.55
Oakland	± 0.00	+ 8.47	— 25.85	+ 9.87	— 8.98
San Francisco	— 25.98	+ 1.06	— 12.11	— 1.20	— 32.12
Ogden	— 16.85	— 11.11	+ 17.65	+ 13.75	— 35.71
Salt Lake City	— 29.37	— 5.62	— 14.88	+ 20.28	+ 8.72

TABLE 223—(*Concluded*)

Percentage Year-to-Year Changes in Ratios for National Banks, by Cities, 1922–1927

L. Net Earnings, during the year, to Gross Earnings

Cities	1922–1923	1923–1924	1924–1925	1925–1926	1926–1927
New York	— 4.69	— 1.85	— 2.68	+ 2.44	+ 1.66
Chicago (Central Reserve)	— 28.04	+ 6.96	— 14.47	+ 14.37	— 1.84
Boston	— 18.52	+ 1.01	+ 21.44	— 14.84	+ 5.37
Albany	— 1.05	— 9.28	+ 0.99	+ 2.74	— 10.87
Brooklyn and Bronx	— 5.57	— 19.81	+ 11.20	— 1.34	— 43.62
Buffalo	+ 22.72	— 22.98	+ 24.33	— 38.53	+ 18.75
Philadelphia	— 10.76	— 2.18	— 12.32	+ 20.24	— 10.21
Pittsburgh	+ 6.24	— 19.46	+ 9.55	— 12.86	+ 5.15
Baltimore	+ 0.16	— 2.87	— 14.67	— 27.82	+ 42.93
Washington	— 6.25	— 0.90	+ 8.76	+ 5.38	— 12.66
Richmond	— 9.29	+ 10.65	— 22.09	+ 23.39	— 1.00
Atlanta	— 14.30	+ 8.01	+ 45.25	— 23.22	+ 9.50
Jacksonville	+ 11.52	— 5.60	+ 13.97	— 9.00	— 17.06
Birmingham	+ 60.05	— 42.71	+ 18.29	+ 16.44	— 22.99
New Orleans	+ 22.99	+ 1.80	+ 3.24	+ 2.75	— 8.88
Dallas	— 19.06	+ 24.64	+ 4.18	+ 4.48	— 8.91
El Paso	— 25.35	+ 19.90	+ 14.70	+ 25.49	+ 0.28
Fort Worth	+ 13.17	— 4.53	— 20.28	+ 29.47	+ 15.47
Galveston	— 20.54	+ 89.90	— 12.70	— 11.50	+ 8.83
Houston	— 4.58	— 18.71	+ 9.69	+ 10.13	— 8.76
San Antonio	+ 4.08	— 20.88	+ 9.16	+ 31.24	+ 3.27
Waco	+ 3.62	+ 9.17	— 1.35	— 6.58	— 7.08
Little Rock	+ 2.31	— 10.81	— 11.86	— 15.86	— 36.80
Louisville	+ 3.89	— 7.13	— 0.06	— 0.35	— 0.22
Memphis	— 19.96	— 3.07	+ 9.16	+ 15.69	— 50.49
Nashville	+ 8.34	— 29.00	+ 4.08	— 13.82	+ 7.06
Cincinnati	— 18.69	— 9.85	+ 0.56	— 7.86	+ 4.00
Cleveland	— 40.63	+ 4.86	+ 19.66	— 15.68	+ 1.74
Columbus	+ 2.67	— 22.75	+ 18.86	— 4.78	— 9.21
Toledo	+ 6.19	+ 15.68	— 21.20	— 16.94	+ 40.74
Indianapolis	— 9.38	+ 4.80	+ 45.94	— 30.55	+ 17.69
Chicago	— 5.12	— 9.77	— 1.32	— 6.44	+ 13.51
Peoria	— 7.65	+ 3.98	— 11.57	+ 5.11	— 3.13
Detroit	— 4.57	+ 0.67	— 7.80	— 2.83	+ 12.49
Grand Rapids	+ 0.99	— 1.15	+ 22.99	— 3.81	— 35.67
Milwaukee	— 15.17	+ 9.91	— 20.50	+ 12.10	— 4.38
Minneapolis	— 76.14	+183.76	+ 38.19	— 7.18	+ 7.86
St. Paul	— 16.41	— 8.06	— 7.57	+ 22.09	— 8.09
Cedar Rapids	— 15.86	— 18.94	+ 2.74	— 10.15	+ 30.06
Des Moines	— 20.25	— 74.73	+203.16	+ 41.80	— 26.98
Dubuque	+ 35.27	— 35.34	— 2.98	+ 17.09	— 12.66
Sioux City	— 14.81	— 23.44	+ 14.36	— 9.43	+ 3.52
Kansas City, Mo.	+ 3.26	— 3.68	— 4.37	+ 9.93	— 13.59
St. Joseph	— 18.00	— 31.63	+ 23.03	+ 43.60	— 8.86
St. Louis	— 14.91	+ 3.49	+ 11.45	— 11.77	— 26.15
Lincoln	+ 1.48	— 23.65	+ 13.37	+ 10.30	+ 8.68
Omaha	— 9.34	— 5.90	+ 5.36	+ 33.62	— 19.94
Kansas City, Kansas	— 16.72	— 7.82	+ 6.86	— 13.88	+ 19.33
Topeka	— 12.05	+ 5.73	— 31.55	+ 16.32	+ 18.65
Wichita	— 20.64	— 11.78	+ 27.15	— 5.10	+ 25.71
Helena	— 17.49	+ 8.43	— 24.52	+ 35.74	— 19.22
Denver	— 24.94	+ 78.46	— 31.95	+ 13.95	+ 12.09
Pueblo	— 2.20	— 17.64	— 16.72	— 2.47	— 18.83
Muskogee	— 5.60	+ 0.12	+ 10.49	+ 4.28	+ 12.89
Oklahoma City	— 4.11	+ 7.97	+ 9.54	— 25.78	+ 30.68
Tulsa	+ 40.79	— 28.05	+ 12.07	+ 28.68	+ 45.58
Seattle	+ 3.02	— 9.86	+ 2.31	— 1.26	+ 0.50
Spokane	— 14.13	— 22.61	— 1.16	+ 25.23	— 15.79
Portland	+ 3.00	+ 0.52	— 6.64	— 10.10	+ 21.31
Los Angeles	— 9.71	— 2.91	— 16.09	+ 4.90	— 9.88
Oakland	+ 4.80	+ 3.82	— 9.65	— 5.22	— 11.66
San Francisco	— 9.44	— 7.95	— 6.33	— 7.88	+ 14.24
Ogden	+ 4.32	— 13.20	+ 12.45	+ 14.58	— 20.58
Salt Lake City	— 3.52	— 4.98	— 11.47	+ 16.13	+ 6.76

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INDEX TO CHARTS AND TABLES

(*See also* Index to Discussion)

For the most part, the charts and tables refer to series of data expressed as ratios, the base amounts, distinguished by the corresponding abbreviations, being as follows: Earning Assets = E.A.; Gross Earnings = G.E.; Total Deposits = T.D. Page numbers in bold type refer to frequency surfaces; those in italic, either roman or bold, refer to charts; those in plain type refer to tables.

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